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ORIGINAL ARTICLES.

TWO CASES OF MALIGNANT ENDOCARDITIS.

Read before the Philadelphia College of Physicians, March 2, 1887.

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Both the cases included in this report have been named malignant endocarditis, although one of them is without the warrant of a microscopical examination. The clinical course and microscopical appearances indicate such to have been its true nature, however. I venture to bring it before you thus labelled, to excite criticism, if necessary, and to ask your attention to one of the manifold phases of this interesting disease.

The case was under the observation of Dr. J. Henry Musser, of Lancaster County, and seen by my father, Dr. Benjamin Musser, in consultation. It occurred in their practice in 1878. I recall the case both from conversations and letters concerning it at the time. Unfortunately, the notes of the case in Dr. Musser's possession have been mislaid. His memory and memoranda in his case-book feebly supply the deficiency; fortunately we have the morbid specimens.

Case 1.—Rheumatism; embolism of large vessels; cardiac murmurs; gangrene; chills and fever; death. Autopsy: vegetations on mitral leaflets; emboli in brachial and femoral arteries.—H. R., male, æt. 23, laborer, consulted Dr. J. Henry Musser, June 25, on account of rheumatism. He was visited by his physician the first week in July once, the second week four times, and the third twice. On the 1st of August grave symptoms set in, and on the 3d of September he died. It will be observed, therefore, that, in July, the patient was not very ill; in fact, he continued at light work on his farm, and on the 1st of August was in the harvest field, when the first embolus manifested itself. During that month he had rheumatism, and for a short time before August 1st, chills and fever.

August 1. Sudden severe pain occurred in the right brachial artery. Could not be removed to his house at once on account of collapse. Dr. Musser saw him, and found the pulse absent at the wrist, the hand cold and cyanosed. Two days subsequently the femoral artery became plugged, much pain being occasioned at the time. The circulation in neither arm nor leg was ever restored, and gangrene ensued. Attention was at once called to the heart, and a distinct systolic murmur was heard at base and apex. During the month an irregular fever, with irregularly recurring chills, was present. Death took place from exhaustion, September 3, thirty-three days after serious symptoms set in.

At the autopsy the vessels were plugged with emboli and thrombi, as exhibited in the specimens. The heart was enlarged by dilatation, and on the posterior cusp of the mitral valve soft fungating vegetations grew. Some of the chordæ tendineæ were surrounded by vegetations. The auricular surface of one cusp was rough, and minute ulcers were present. Fibrin clung to the vegetations, and recent clots filled the cavities. The aortic valve and the right heart were normal. There was no atheroma.

Remarks.—Without doubt, in this instance, malignant endocarditis was associated with rheumatism, and the type was essentially pyæmic. One might presume, however, that the so-called primary rheumatic symptoms were pyæmic in nature, or that the cardiac lesions supervened secondarily to the gangrene. The teachings of the autopsy do not sustain either supposition. The absence of old cardiac and vascular lesions, and the general integrity of the organs, preclude the possibility of pyæmia. The normal condition of the arteries (absence of atheroma), the absence of primary blood dyscrasiæ, or of any cause, save cardiac, for the emboli, defeat the second supposition.

Case 2.—Malignant endocarditis; chills, irregular fever, sweats; cardiac murmur and pain; vomiting and diarrhœa; marked embolic phenomena; jaundice; death. Autopsy: proliferative bacterial endocarditis confined to the mitral valve; emboli of skin, mucous membrane of mouth, of stomach, and of intestines, of spleen, kidneys, peritoneum and endocardium; embolus and thrombus in left iliac vein.—M. S., female, æt. 27, white, German, married, admitted to Philadelphia Hospital August 26, 1886. At the same time her husband and children were admitted for a febrile complaint, thought to be of malarial origin. The patient had been ill about six weeks, of an irregular fever, also said to be malarial. At this time she was nursing an infant which had been born one year before. The labor was natural, and she had a good getting up. Since birth of child patient has not menstruated. Three years previous to this illness she had an attack of malarial fever, and at one time had rheumatism of the leg. She never had any other

ailment, was strong and hearty, and of temperate habits.

The family history of the patient is very good. Her parents and several brothers and sisters are living. One sister died of pneumonia; the cause of death of another is unknown. On admission it was noted that the patient was prostrated and complained of chilly sensations, she sweated profusely, and suffered from nausea. The tongue was clean and moist; the bowels loose, five movements in twenty-four hours, thin and greenish in color; the nausea had disappeared in twelve hours; tenderness of the epigastrium was observed, but none in the iliac fossæ. The spleen extended, in the axillary line, from the sixth rib to the margin of the ribs. There was no eruption. Both cheeks were flushed. The skin and mucous membranes were pale, the hands quite anæmic. She was somewhat emaciated. The mind was clear. The lungs and heart were normal; the latter rapid in action, and rather feeble. Milk diet, stimulants, and quinia ordered.

September 2. My resident, Dr. Dorland, detected a cardiac murmur two days ago, and to day the following is noted: General symptoms and appearances about the same. Apex beat of heart in fifth interspace in nipple line; impulse moderately feeble; no thrill; pulmonary second sound accentuated; high-pitched systolic murmur at apex transmitted to axilla; no murmur at aortic orifice. Pulse rapid, small, and feeble. No cough; no dyspnœa. Ulcerative endocarditis suspected.

8th. The fever has continued in spite of quinine. The patient sweats profusely throughout the day, but not at night. Her anæmic appearance is striking. She is quite cheerful, but is evidently losing flesh and strength. The diarrhœa continues. The cardiac murmur has increased in intensity during the past forty-eight hours, and can be heard loudly at the angle of both scapulæ, louder at the right. Marked tenderness on pressure, and some pain complained of in the third left intercostal space. At the base of the right lung impaired resonance, and fine, moist, crepitant râles are observed. A few râles are heard at the right apex also. Short, high-pitched, jerking inspiration and prolonged expiration is detected at the right apex, and high-pitched inspiration at the left.

12th. Two days ago two small purpuric spots were observed on each upper eyelid, and to-day hæmorrhagic infarcts are seen all over the trunk and on the upper extremities, pin-head to split-pea in size, bright red, not disappearing on pressure. Hæmorrhages in the ocular and palpebral conjunctivæ of both eyes at inner and outer canthus. Rapidly losing flesh and strength. Sweats continue. Abdomen distended in epigastric and umbilical regions; large wavy impulse in epigastrium. Nausea and vomiting recurred the past five days; fluid dark, greenish tinge. The vomiting occurs in the morning. Diarrhœa continues. Spleen readily felt below the margin of the ribs, tender. Lungs have cleared up. No cerebral symptoms. Heart's action irregular. Pulse small, feeble, rapid, dicrotic. Tenderness behind the sternum. Impulse (systolic) in second, third and fourth left interspaces. In second interspace to the left of sternum very perceptible thrill. Systolic murmur not so loud as it has been at apex. Over third rib, left auricle loud, booming systole, with "grinding" murmur. In second interspace to the left of the sternum loud, rough, high-pitched murmur. Pulmonary second sound muffled. Murmur over tricuspid not so distinct as at mitral, and probably transmitted; aortic murmur low in pitch, conducted from base. No œdema. Mind clear.

13th. Physical signs as above. Cardiac dulness extends from the left edge of the sternum one inch to the left in the second interspace. It extends in the third interspace two inches, and in the fourth three inches. Apex beat in nipple line. Intensity of murmur greatest in second interspace. Chill this morning. Urine scanty and high-colored, and contains blood and epithelial tube casts in abundance, and a small amount of albumin. General symptoms the same. Extreme prostration.

14th. Chill at 7 A.M. A little more drowsy than formerly; no delirium. Murmur in second interspace not so distinct. New capillary infarcts in abundance about the neck. Vomiting and diarrhœa continue. Infarcts in lips and on end of tongue. Conjunctivæ slightly icteric. Dyspnœa severe for half an hour at 2 P.M. Partially collapsed state, with grasping and sighing; excessively rapid pulse; stimulants relieved the patient. At 11 P.M. a second attack. During the day very irritable, and latter part of day drowsy. Died at 2 A.M., September 15.

The following record indicates the daily fluctuations in temperature. The pulse record was not preserved. but from first to last it was rapid, 120 to 130 per minute.

August 25, P.M., 99.3°. 26th, A.M., 100.4°; P.M., 103.2°. 27th, A.M., 101.1°; P.M., 103.° 28th, A.M., 101.1°; P.M., 101.3°. 29th, A.M., 102.1°; P.M., 102.3°. 30th, A.M., 103°; P.M., 100.4°. 31st, A.M., 100.1°; P.M., 101°.

September 1, A.M., 102°; P.M., 101.2°. 2d, A.M., 102.1°; P.M., 102.3°. 3d, A.M., 102.4°; P.M., 99°. 4th, A.M., 99°; P.M., 101.4°. 5th, A.M., 101.2°; P.M., 105°. 6th, A.M., 99.2°; P.M., 105°. 7th, A.M., 101.1°; P.M., 97°. 8th, A.M., 97.2°; P.M., 99.3°. 9th, A.M., 101.2; P.M., 105°. 10th, A.M., 105°; P.M., 99.2° (chill at 6:30 A.M., and 9:00 A.M. temperature taken). 11th, A.M., 101.3°; P.M., 99.3°. 12th, A.M., 101.°4; P.M., 99.3° (chill 7:30). 13th, A.M., 102.3°; P.M., 102°. 14th, A.M., 100.2°; P.M., 100.4.° 15th, A.M., 99.2°.

During the course of her illness careful search was made for localized purulent inflammation. The pelvic organs were normal, the bones were evidently free from disease, and inflammation of the middle ear was not detected.

Autopsy (by Professor Osler, Dr. Musser, and Dr. Dorland).—*General Appearance.*—Medium sized body, somewhat emaciated. Skin pale, slightly icteric. Numerous petechiæ cover the face, chest, and arms; very numerous on right arm and wrist. Petechiæ range in size from a pin's head to a split-pea, and vary slightly in color from vivid red to dark

blue; one or two only present central yellowish core.

Abbomen, Thorax.—Numerous petechiæ on parietal peritoneum. Slight serous effusion in both pleural sacs; few adhesions at right base; some petechiæ in parietal pleura.

Pericardium, Heart.—Excess of pericardial fluid, numerous small petechiæ on visceral layer. Right chamber relaxed, containing fluid blood and small clot. Left ventricle, tolerably firm, dark clot. Apex of the left auricle is long, and can be seen turning round to base of pulmonary artery. Before removal of heart, fingers in pulmonary vein and pulmonary artery, both of which are free. Further dissection of heart: right auricle, little blood, staining of endocardium; a few petechiæ. Right ventricle, chamber large; tricuspid segments a little thickened; a distinct nodular thickening at angle of anterior and internal cusps. Pulmonary semilunar valve normal. Left auricle dilated. Seen from above, mitral orifice plugged by loose black clot and large greyish-white vegetations. After removal of auricle, the following conditions of valve appear: from base of posterior cusp of mitral, large irregular gray-yellow vegetations one inch in length extend into the auricle passing out at right angles to the mitral ring, and forming a sort of valve across the orifice. Entire auricular surface of this cusp covered with vegetations. Anterior cusp at free edge a large, warty vegetation projecting into ventricle three-fourths of an inch. The anterior part of this cusp is free. One or two of the chordæ tendineæ are encircled with vegetations. No involvement of endocardium, other than that of valves. Aortic cusps normal. So-called unprotected space below aortic ring presents deep depression, is closed, and to its base is attached a nodular thickening at angle of tricuspid cusps. Muscle substance of heart is pale, looks fatty; numerous ecchymoses Coronary arteries free.

Lungs crepitant; ecchymoses on pleura. No infarcts. Bases œdematous, somewhat congested. Pulmonary artery normal.

Spleen weighs 1 lb. 5 oz., soft, capsule closely adherent at one spot. Pulp soft, reddish-brown; four large infarcts of some age, yellowish; others recent, none suppurating.

Kidneys somewhat enlarged. Capsule free, surface irregular. Numerous recent infarcts. Unusual amount of pigment. Right kidney, same changes; not so many large infarcts; the pigmentary changes about many of these infarcts are peculiar.

Pancreas.—Few interlobular hæmorrhages.

Stomach.—Numerous ecchymoses. Many with small, central grayish spots. Mucosa about cardiac end much reddened.

Duodenum.—Bile duct pervious; in mucous membrane small, superficial ecchymoses.

Small Intestine.—One or two small infarcts in jejunum. Toward valve the ileum was much injected, and the small infarcts were numerous. *Large Intestine.*—Cæcum deeply injected; throughout the colon they are numerous, in size from two to ten millimetres. Some of larger show distinct nodular prominence, which on dissection is grayish-red, firm.

Liver.—A little enlarged. No extravasations; tissue soft and light brown. No infarcts. Weight 5 lbs. 4 oz.

Uterus.—Medium size. Os shows deep lateral laceration. Mucous membrane deeply pigmented. Muscle substance normal. Ovaries normal. Small cyst in broad ligament. Pelvic veins are normal. No trace of chronic inflammation about broad ligament. No thrombosis of veins.

Bladder.—Few ecchymoses.

In the common iliac artery a plug is seen extending into the external iliac as far as the femoral; in the internal iliac it extends for two inches. On slitting up artery the thrombus is closely adherent, and at bifurcation it has softened, and has a purulent (?) appearance. Clot in internal iliac is one and a half inches long at least. Much pigmentation about the internal coats of the artery. No evidence of any local disease. Brain, spinal cord, eyes, and ears not examined.

Microscopical examination of the fresh clot in the artery, and the vegetation on the valve, by Dr. Griffiths, revealed the micrococci common to ulcerative endocarditis, the Staphylococcus pyogenes aureus.

Sections of the organs after hardening were made for me by Dr. William Gray. He reports as follows:

Heart.—Fatty degeneration of the muscular fibre, with almost entire obliteration of the striæ; increase of the interfibrillar connective tissue, and decided increase of the nuclear elements.

Spleen.—Extensive cirrhosis; obliteration of the cellular elements by fatty degeneration and an abundance of blood crystals (section from an infarct) are seen.

Kidney.—Increase of intertubular connective tissue and tissue of Bowman's capsule. Proliferation of epithelial cells lining capsules and tubes. Cells degenerated and lumen of tubes plugged with casts. Section of infarct shows blood infiltrating into the tubules and between connective tissue fibres.

Intestine.—Increase of connective tissue in submucous layer and of adenoid tissue of villi; extensive lymphoid infiltration into mucous layer, villi, and glands of Lieberkühn. Granular degeneration of cells of villi. Infarct between and into submucous and muscular coat, blood crystals in infarct.

Artery.—Entire absence of intima, with thickening of middle coat, and infiltration of blood into media.

Unfortunately, Dr. Gray did not get any of the proliferated mass on the valves. Dr. Gray was unable to find micrococci in the sections he had cut. They were given him without proper labelling, so that he did not know the tissue he was cutting. While this is to be regretted, it is enough to learn from the early and late examinations of Dr. Griffiths, that bacteria were present. Dr. Griffiths readily found in the fresh treated preparations that micrococci abounded in the granular matter, and about the leucocytes of the vegetation.

The lesions otherwise found, were myocarditis, glomerulo-nephritis, and gastro-enteritis, with the usual histological changes about an infarct.

Remarks.—So many thoughts arise in the con-

templation of a case that represents so complete an evolution of a morbid process that one is tempted to indulge in lengthy remarks. We shall limit ourselves, however, and so be content with calling your attention to one or two prominent features.

Diagnosis.—Observe, if you please, in the first place, the perfect picture of malignant endocarditis presented by the case. There was not a moment after the manifestations of the heart lesions were studied, that the diagnosis of endocarditis was doubted. It is true that before the cardiac murmur had been detected we could only say we had to do with a septic process. Who would say otherwise in a case of a young person with irregular fever, profuse sweats, and extreme exhaustion; with vomiting and diarrhœa, and enlargement of the spleen; with an acute inflammation of the kidneys without dropsy; with the physical signs of endocardial inflammation; and with the most pronounced appearance of capillary hæmorrhages in the skin and mucous membranes, terminating in suffusion of the skin, conjunctivæ, and mucous membranes with the mild but ominous hue of icterus? It is true we considered at first whether, from the history and association with similar affections, the case was one of malarial origin. The use of quinia without result, the irregularity of the fever, the frequent pulse, the extreme sweats, and the diarrhœa, led us to abandon this idea. Typhoid fever was rightly thought of, but momentarily. The spots, the tympany, and the characteristic stools were wanting; no approach to the typhoid state was observed in spite of the high fever and rapid pulse; the peculiar features of the tongue were absent, and at no time were the faculties dull or the mind wandering. The physical signs observed in the lungs, the profuse sweats, the quick pulse, and the diarrhœa, naturally induced the question of tuberculosis to arise. The disappearance of the lung affection, the absence of hurried respiration, and of the tubercle bacilli in the discharges, were sufficient counterproofs.

Thus, by exclusion and by a careful study of the disease as it was gradually unfolded to us, we were enabled to make a diagnosis. In this, as in many instances, unfortunately, with waiting and watching, too soon the true nature of the affection was so legibly written that he who ran could read.

Class.—As far as can be ascertained, the affection was idiopathic—using the term with the modern reservation. That is, a cause cannot be ascertained for the development of the disease in this case unless the slight rheumatic attack years previously is sufficient to attach the diathesis as cause and effect.

Type.—Recall for a moment the marked symptoms present. The fever, the chills and the sweats, the clear intellect, the gastric and intestinal disturbances, clearly group the case with other examples of malignant endocarditis of the pyæmic type.

Special Symptoms.—Enough has been said of the symptoms in the history of the case. Your attention need not be called again to the vivid temperature range, the recurring chills, the grave renal symptoms, and the pronounced capillary hæmorrhages. The latter were striking—at first but a few, each day more and more appearing; confined not only to the skin but seen in the lips and the tongue and the conjunctivæ, they presented a glaring picture of the pathological process. The anæmia, which was barely noted, deserves a remark. It was profound, and the appearance due to it at once excited attention. Certainly the hæmoglobin was much reduced, yet the patient was so ill we did not care to disturb her to ascertain its percentage.

One class of phenomena deserves more lengthy remarks—the physical signs of the cardiac lesion. At first, at the mitral orifice a systolic murmur transmitted in the usual direction was heard. It varied in loudness and pitch. Later it diminished in pitch and volume, and at the same time a very loud systolic murmur, high in pitch and grinding in character, was heard on the third left rib and in the second left interspace one and a half inches outside the sternal edge. So loud was the murmur in this situation that, especially as it was attended by a thrill, we thought the pulmonary valves were implicated in the disease. The occurrence, however, of an increased area of pulsation, most distinct in the second and third interspaces, and of an increased area of dulness in the auricular region led to the conclusion that mitral stenosis was present. A presystolic murmur was not heard, however, and probably was not present. It was not created because of the projection of the vegetation over the orifice, in all probability. For a similar anatomical reason one can infer that the ventricle fills, partially at least, prior to and independent of contraction of the auricle. For with such an effort, at once, communication would be cut of by the vegetation.

The systolic murmur was heard, in the latter weeks, loudest in the second and third interspace. Two causes can be invoked for this peculiar localization of the murmur. The projection of the mass from the auricular surface of the valve could readily throw the back flow of blood—the valve not closing from the situation of the second mass—into vibration, and thus murmur and thrill be produced and heard loudest over the auricle. While such an explanation suffices, a second cause for the murmur can be found in the position and dilatation of the auricular appendage. If such a view of the case is held, then the theory of Naunyn and Balfour to explain the mechanism of systolic murmurs in this location is well illustrated. The excessive loudness of the systolic murmur at the angle of the right scapula was very peculiar.

The case of recognition during life, and the peculiar physical signs, are the features of prominent note in this case.

FORT SILL, INDIAN TERRITORY.

BY MORSE K. TAYLOR, M.D.,

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The prominence given to Fort Sill as an unhealthy station by the late report of the Surgeon General, taken in connection with the comments thereon in THE JOURNAL of February 26, are such as to give a

very erroneous impression respecting the present sanitary condition of this post. That it has been in years past very unhealthy, no one familiar with its history will dispute, but that it is so now few, if any residents thereat will admit. And, as the writer has been on this station for the last three and a half years, and charged with the supervision of its hygienic affairs, he may be pardoned for feeling a little sensitive upon this question; more especially so, since under his administration the post has become one of the most healthful and pleasant stations in the West. Notwithstanding this, however, he would not write the following at this time, were it not that a lesson may be learned by a further consideration of the Surgeon-General's statistics taken in connection with others of a later date.

It may be observed that it embraces the period commencing with July 1, 1885, and ending with June 30, 1886; corresponding with the national fiscal year. In this it differs from the sanitary reports of cities and other countries. This may be noted only to invite attention to the fact that the time included by the Surgeon-General's report was a part of the transition period in which the post passed from an extremely unhealthy condition to one of salubrity. How sickly it has been may be understood from the records which show that in 1876 the rate of cases per 1,000 mean strength was 3.911, and in 1877 it was 3.067.

There is nothing in the natural surroundings to make the location more unhealthy than in the best situations in the South, or elsewhere in regions of acknowledged malarial tendencies. Indeed, it may be said with truth that there are few locations as good. A hasty glance at its topography will make this apparent:

The post is situated 1,200 feet above the sea, upon an irregularly quadrilateral plateau about one-fourth of a mile in diameter, its sides corresponding in a general way to the cardinal points; and at an elevation above the surrounding lands of from fifty to sixty feet on the east, south and west; while on the north it is skirted by the bed of Medicine Bluff Creek, with a sharp declivity of seventy feet. Along this creek there is a strip of heavy timber about one-fourth of a mile in width, but beyond this, and extending in all directions for one or two miles, are open bottom lands, all of which are well drained. At a distance of a mile or so to the northwest are the foothills of the Wichita Mountains, while elsewhere beyond the bottoms are wide rolling, high, beautiful prairies. Cache Creek rises about thirty miles to the northward, and running nearly due south, passing the post to the eastward three-fourths of a mile, empties into the Red River forty-five miles away. Medicine Bluff Creek, rising in the Wichita Mountains, and taking a nearly due eastern course past the post on its northern side, discharges into the Cache within the limits of the reservation. Both are free flowing streams at ordinary stages; having dry beds, however, in many places in midsummer, in others stagnant pools, while in the rainy season they rise to the height of between fifteen and twenty feet; the Medicine Bluff becoming a turbulent mountain torrent.

From the foregoing it may be inferred that the opportunity for the successful cultivation of the Anacharis Alsinastrum, as suggested for the improvement of the health of some of the posts, is not specially encouraging here; while it also invites us to look for other causes in explanation of the large number of malarial and kindred diseases which have prevailed here since the establishment of the post in 1869.

Before entering upon the sanitary history of the station, let us consider the report briefly. From this it appears that the average length of time patients are under treatment at Sill is nine days, this being a fraction less than the average for the whole army, while there are 57 posts which exceed that number; San Diego taking the lead with 23 days, followed by Stockton, Texas, with 18 days, and Bowie, Ariz., with 17 days. In the Indian Territory Forts Supply and Reno have an average of 13 and 11 days respectively.

There is, however, another method of estimating the relative healthiness of posts better than this, or that indicated by the rate of admission. If we take the rate per 1,000 of non-effectives from sickness and multiply this by the number of days they are carried on the sick reports, we get a product which gives us a better idea of severity of the disorders and the loss the Government sustains as the result. To illustrate: Fort Sill had a rate of non-effectives of 58 per 1,000, which, multiplied by 9, the number of days they were under treatment, gives a total loss of time to the Government of 522 days. This method of calculation shows that there were 16 posts which exceeded Sill. The first on the list is San Diego, with a loss of 3,036 days; Stockton, 1,206; Brown, 869; Maginnis, 784; Supply, 819; Reno, 616; Columbus Barracks, 1,312; Lowell, Ariz., 624 per 1,000 mean strength, and several others, embracing Jackson Barracks, Jefferson Barracks, Ringgold, Davis, Concho, Huachuca, and Bayard.

Again, if we take the cases treated per 1,000 of mean strength, and this multiplied by the length of time under treatment, we get results differing somewhat from the foregoing, but none the less instructive. The following tabulation will make this apparent:

Posts.	Cases per 1,000 m. s.	Days under treatment.	Total loss.
Ft. Ringgold	2304	11	25.344
" Brown	2181	11	23.991
" Stockton	1121	18	20.178
" Davis	2160	10	21.600
" Schuyler	1265	18	22.770
" Reno	2004	11	22.004
" Supply	1620	13	21.060
" San Diego Bks	1000	23	23.000
" Sill	2211	9	19.899
" Willetts Point	2782	7	19.474

There are other stations that closely approach Sill in their aggregates, which are omitted.

All the foregoing relates to the condition of Fort Sill before a sufficient time had elapsed to indicate what ultimate results might be expected from the efforts being made to improve its sanitary condition. These we will now consider:

When the writer entered upon his duties as Post Surgeon the latter part of November, 1883, the com-

mand, then consisting of four companies of infantry and two troops of cavalry, was in a most demoralized condition. Of the eleven officers for duty all had been sick during the two preceding months, three others were absent on sick leave, and of the enlisted men the rate of cases per 1,000 of mean strength was 468, exclusive of injuries, for the months of September and October, according to the records. These, however, did not express the real state of the case. As there was quite a rivalry in the target practice of the respective commands, the men would take their "shakes," then their quinine, and as soon as the fever abated, their turn at the rifle grounds, without going on the sick report. From the representations of the company commanders it was evident that few men escaped. Some of the attacks were of great severity. Men would be stricken down while on parade or at guard mount and have to be assisted to their quarters. One of the more common symptoms was intense pain in the back of the neck and base of the brain. Said an officer, referring to this symptom in his own case, that it struck him almost like an electric shock, and was the most excruciating suffering that he ever endured, or could imagine one capable of enduring, and live.

At the time of the writer's assignment to this station he was made acquainted with its bad reputation and was requested to seek the cause of its unhealthiness, being assured by the department commander that every assistance should be afforded to remedy the trouble when ascertained. Entering upon his duties with this aim before him, he determined to spare no effort in the accomplishment of his purpose. Careful investigations were commenced in every direction which might afford a clue to the origin of the sickness. After examining the geology and natural environments of the post, and finding in these nothing to account for it, nor in the duties or habitations of the men, the water supply was next investigated. This came from two sources: one a shallow well situated about midway on the west side of the barrack line, which was used largely for drinking purposes by the men, and the other from a stagnant pool in Medicine Bluff Creek situated about a third of a mile from the post to the northwest. The supply from this source was obtained by driving a six-mule team and a wagon into the middle part of it, thereby stirring up all the sedimentary matters possible, and then dipping this water into the tank and delivering it to the men at the barracks and to officers in their back yards, at distances of nearly 100 feet from their dwellings; and all into open barrels unprotected from the heat of the sun, the winds, or dust. As a result, the organic matters in the water soon underwent fermentation and rendered it still more disgusting. An examination of the well water showed that it contained a large amount of chlorides, free and albumenoid ammonia, nitrites, and nitrates. Although it was situated at an elevation of 50 feet above the surrounding bottom lands and 70 feet above the creek, the water came to within 12 feet of the surface of the ground; and it was but 30 feet from the barrack buildings and 250 feet from the cavalry stables. Its water supply was clearly derived from the surface drainage of the post and contaminated in the highest degree.

The creek water was next examined. That selected for this purpose was taken from the water barrels at the hospital soon after the delivery of the water wagon, the barrels having previously been emptied. There was a large amount of sedimentary matters floating in it, and not until this had settled was the examination commenced.

The distillate of this water was most offensive, having a fæcal and urinous odor most nauseous, yet it was but an exaggeration of what had been frequently observed in the water barrels of the officers' quarters during the warm weather, after standing twenty-four hours. Under the impression that a mistake had been made, or that the water had been accidentally fouled, the water delivered the next day was distilled, but with the same results. Even the water in a moderate rise after a rain was little better. No use could be made of it in the laboratory or dispensary. The sedimentary matters were placed under the microscope, and with the revelation of too many micro organisms to be described here. The stream was running at this time, so that the water was not wholly stagnant, and represented the ordinary condition of the water supplied the post for years past. In fact, the stream had been swept by a rise of sixteen feet only a few weeks before.

Near the northeast corner of the garrison, distant about 150 yards, was a small spring from which some of the officers had obtained their drinking-water. It flowed out from the north bank of Medicine Bluff Creek fourteen feet below the surface of the bottom land and on the surface of a soft outcropping sand rock, and discharged eight gallons per minute. As a water supply it was condemned in 1877 by the Post Surgeon, and the following entry made on the post records respecting it: "This spring finds its origin in surface water which drains out of a low and somewhat marshy bottom stretching along the creek to the north. This water contains various organisms, and it is believed, if not directly productive of malarial disorders, that it favors their development in many cases who would otherwise escape." These remarks had the effect of prejudicing the officers against it, notwithstanding its physical qualities were greatly in its favor, being beautifully limpid, sweet and sparkling.

In the belief that the prejudice against it was ill-founded, the writer proceeded to make a careful analysis of it, and also to ascertain its probable geological source. The result went to show that it was one of the purest springs of water to be found in any country. That its origin was very remote, the flow being entirely unaffected by local rains or droughts, was evident.

After representing these facts to the commanding officer and urgently requesting a detail of men to examine the locality and ascertain whether the discharge could not be increased to a degree sufficient for the wants of the command, his request was finally complied with. The detail was made in March, 1884, consisting of a corporal and four men, and turned over to the writer. The work soon revealed the fact

that the water came through a bed of porphyry gravel resting on the sand rock about eighteen inches above the creek bed; and further, by lowering the outflow the discharge was increased to over 7,000 gallons per hour. On reporting the results of his efforts to the department commander, the sum of $3,500 was appropriated for introducing the water to the post. Soon after a storage basin of 7,000 gallons capacity was excavated in the rock, and a spring house of solid stone masonry, with walls four feet thick, twenty feet high, and substantially arched over, was constructed to protect the spring from the floods and drift wood of the creek, while an automatic valve was introduced in the outflow pipe to shut off the back water from the stream when it should rise above the level of that in the basin.

During that season the water was distributed by the wagons and stored at the dwellings in barrels as before; and it was not until the spring of 1885 that the water was introduced into the houses. From the time that the water supply was exclusively from this spring there was a steady improvement in the health of the post. The following comparison will make this apparent. The months of August, September, and October are taken as basis because these here, as elsewhere, are the months when malarial fevers, dysenteries, and diarrhœas most abound.

Malarial fevers, dysenteries and diarrhœas for the years of

	1883	1884	1885	1886
Rate per 1,000 m. s.	560	550	404	223

Notwithstanding this great difference in the rate per 1,000 of mean strength, the improvement has been still more apparent in the lessened severity of the attacks. Not only this, but the whole aspect of the post has been changed. The sad faces, the feeling of despondency, and the bitter curses which were hurled against it four years ago, have given place to a healthful glow, a pervading cheerfulness, and an admiration for its natural beauties, its delightful climate and its excellent sanitary condition. The bloom of nearly a thousand fruit and ornamental trees, while adding to the charms of the place, attest the interest manifested by both officers and men in its improvement. It is now one of the most desirable stations in the West, with a certainty of still further changes for its betterment when the system of drainage shall be completed, and the sewage be utilized on the gardens, so that the discomforts incident to remote stations from markets and prolonged drouths may be remedied. Moreover, it illustrates in a remarkable degree the baneful influence of impure water on public health, for the conditions of the troops, in all other respects, have been almost identical since 1882; and but little changed since the establishment of the post in 1869.

Fort Sill, I. T., April, 1887.

POISONING BY ACONITE. RECOVERY.

BY PAUL L. BRICK, M.D.,
OF LE MARS, IOWA.

Fritz Steinfahrt, a farmer, aged 28, a robust German of bilious temperament, presented himself rather unceremoniously at my office on January 13, at 3:40 P.M. A friend assisted him to stagger into the office and to throw himself upon a lounge. Mr. S. then informed me that he had taken poison and was dying. As the patient could give no information regarding the name or the quantity of the dose taken, I administered an emetic while sending an assistant to the drug store for the desired information. While the effects of the emetic (2 gr. tart. emet. and 20 gr. ipec.) kept the patient occupied, the assistant returned with the consoling news that the man had actually swallowed *seven drachms* of the tincture of aconite at 3:30 P.M., or ten minutes before entering my office. The assistant produced the vial from which the poison had been taken; it was a 2-ounce vial, then containing ℥ix of tincture of aconite. Water was heated and a quart of it administered with ℥iv fl. ext. ipecac and zinc sulph. gr. ii. Emesis followed in five minutes.

3:50. Pupils dilated, pulse full and strong, 74. I gave in each arm hypodermically, morph. sulph., ¼ gr., fl. ext. digitalis gtt. iii; *per os* whiskey and strong coffee. *Symptoms:* Burning sensation in tongue, in the throat and gullet, pressure in region of sternum, loss of sensibility. Patient could see hypodermic needle enter, but could not feel it.

4:00. Emesis; continued whiskey, digitalis and coffee; pulse became slower and smaller; patient complained of great fatigue; skin dry and cold; even the breath seemed cold.

4:15. Faradic battery stimulated circulation; pulse became stronger at once, and patient became livelier, showing influence of stimulants.

4:30. Emesis; skin dry; variable mood; felt better after vomiting.

5:00. Pulse weaker, thread-like, unstable, varying from 76 to 104. A minute after I had found it at 104 an assistant found it at 82; when satisfying myself of the assistant's mistake I counted it 76; in less than five minutes it was up to 92 again.

5:30. Nervous tremors; great restlessness; throws legs about; shivers so that his teeth rattle; spasms of whole body; stretches out at full length, arms and legs rigid; feet warm; $\frac{1}{160}$ gr. strychnine hypodermically; partial loss of consciousness.

6:00. Feels better, asks to walk around, and does so without great effort; passes about three pints of clear orange-colored urine; takes freely of whiskey, coffee and digitalis.

6:30. Sleepy, but very restless. Pulse 76 to 80; almost total loss of sensibility. Gave brandy hypodermically.

7:30. Stomach rejects everything given him, whiskey, coffee, port wine, etc.; is quieted by $\frac{1}{16}$ grain cocaine.

7:45. Pulse 80 to 85; respiration 14, at times very laborious; vomited stimulants given him; pupils natural, and readily influenced by light.

8:00. Two drachms whiskey are vomited up, and cause distressing hiccough; gave cocaine and nux vomica.

8:20. Thorough emesis; hiccough disappears; patient feels better.

8:45. Pulse 72, small, compressible, thread-like; respiration 12, laborious; feels chilly, has rigors, cold, clammy sweat over the body, stupor.

9:15. Vomits freely, has profuse perspiration, drinks and retains port wine, beef tea and coffee.

9:40. Emesis; nux vomica, coffee.

10:00. Emesis; cocaine ½ gr., by mouth.

10:10. Feels easy; respiration 12, regular; pulse 106. Discontinued battery, which had been used uninterruptedly.

11:00. Emesis after ℥i beef tea and a cup of hot coffee. Brandy hypodermically, which patient feels, being first return of sensibility; skin becomes warmer, pulse stronger; perspires profusely; feels sleepy, sleeps and rests well.

1:00 A.M. Awakes, is very thirsty. P. 80, R. 17. Drinks cold water; sleeps.

2:30. Awakes, drinks cold water, has severe frontal headache and pain in region of cerebellum. Temperature 100.2°.

8:00. Feels well; has rested well for several hours; walks down stairs, urinates freely, returns and vomits without distress. Takes a dose of cocaine ($\frac{1}{50}$ gr.) and drinks some beef tea.

11:00. Has appetite; eats crackers and bologna, causing burning in stomach, which soon leaves him, after which he feels well.

REMARKS.—Emesis following so closely after taking the first emetic leads me to believe that the action of the aconite itself was the principal factor. Ten minutes after swallowing the aconite, it had affected the motor system sufficiently to seriously interfere with the patient's walking up stairs; he fell twice on the stairs, and could not rise again without assistance. When entering the office his knees gave away under him, bending forward. The sensory system was paralyzed to such an extent that he could feel neither the hypodermic needle nor the injection. The aconite was taken by mistake for whiskey, with the intention to relieve colic—and it effected a cure. Patient says that the time during which he had lost consciousness seemed like a dream to him. He suffered an undescribable agony almost instantly after swallowing the poison, which was relieved as readily by vomiting. His own story was that he would as soon die as to suffer again the agony he did before vomiting. How he got across the street to my office he does not know. The injection of brandy at 11 P.M. produced pain, the first return of sensibility; from that time I considered patient out of danger, though I watched him closely all night. On the next day the palate and throat were congested; this readily yielded to a gargle of iron and chloride of potash. On the evening of the 15th the patient was taken home in a sleigh, twelve miles, feeling well. When I saw him a few days after he told me that he never felt better in his life.

Patient took: Hypodermically, ½ gr. morphia, 6 drops ext. fl. digital., $\frac{1}{160}$ gr. strychnia, f.℥j brandy; *per os*, 2 gallons warm water, 11 pints coffee, 3 pints whiskey, 20 drops ext. fl. digital., ½ drachm ext. fl. nux vom., ½ pint port wine.

THE OPERATIVE TREATMENT OF RETROPERITONEAL CYSTS IN CONNECTION WITH MICULICZ'S METHOD OF DRAINAGE.

Remarks before the Chicago Gynæcological Society, March 18, 1887.

BY CHRISTIAN FENGER, M.D.,
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It is not my intention to give an exhaustive review of the entire subject of retroperitoneal or parovarian cysts, but I merely wish to call attention to the subject for discussion, giving some of my own experiences, with a view of bringing out those of other Fellows of the Society. The subject is that of so-called parovarian cysts, or cysts of the broad ligament, or cysts with fimbriated epithelium, and I wish to call attention to a few facts concerning them before showing specimens.

We know that these cysts are said, in a great majority of cases, to develop from the parovarium, the rudimentary sexual remnant of the Wolffian bodies; more rarely, they are said to develop from the epoöphoron; finally, it is possible that cysts of the broad ligament may originate from hæmatomas. The canals of the parovarium being lined with fimbriated epithelium, may account for the fact that the inside of a number of these cysts is found to be lined with this form of epithelium.

Parovarian cysts are typically mono-cysts. In this respect they differ materially from proliferating cystomas or other ovarian cysts developed in or into the broad ligament. Both classes are retroperitoneal cysts, inasmuch as they are situated behind the peritoneum of the posterior wall of the abdomen, but the cysts of ovarian origin are more likely to have only a partial retroperitoneal or intra-ligamentous development; that is, part of the tumor within, part outside of the broad ligament; whilst the parovarian cysts proper are more likely to be completely surrounded by the broad ligament. From the broad ligament, and separating its two layers, they commonly develop inward to the sides of the uterus and downward toward the bottom of the small pelvis.

They are usually thin-walled, lined with fimbriated epithelium or mixed fimbriated and common cylindrical epithelium; consequently their interior surface is smooth, and they contain a thin, colorless, clear fluid of low specific gravity, with no formed elements. Between the peritoneal covering and the cyst wall there is usually a layer of loose connective tissue with but few vessels; which explains the facility with which these cysts may sometimes be separated from the broad ligament covering them, and enucleated without the use of cutting instruments, and with very little harm.

A typical cyst of this kind should have the Fallopian tube on its outside stretched out and flattened, because the cyst develops into the little mesentery of the tube. In the same way the ovary is found stretched out and flattened on the outside of the cyst near the tube. Exceptions to these common anatomical characters, however, are found. The cyst-wall may be thick, may become the seat of secondary growths, such as papillæ or papillomatous

fimbriated tumors, which, having developed on the inside of the cyst, may perforate the cyst-wall, protrude on the outside, and take upon them a malignant or semi-malignant character, invade the general peritoneal cavity, giving rise to multiple metastatic papillomas.

In cases of this kind, the contents of the cyst is not a thin, clear, serous fluid, but resembles more or less the fluid of the ovarian cystomas, with numerous formed elements, viscid character, and hæmative or blood mixed with it. The connective tissue layer between the cyst and the broad ligament may not be loose and deficient in vessels, but is sometimes so tense as to make separation of the cyst here almost or entirely impossible, and it may contain numerous large vessels.

As to the symptoms: The cysts usually grow slowly, and do not cause any inconvenience unless they reach a very considerable size. They are usually not very tense. The fluctuation is very distinct and superficial. When such a mono-cyst is large, the abdomen is likely to be flat, when the patient is recumbent, as in ascites, and the percussion note is apt to change somewhat with the position of the patient, thereby sometimes making the differential diagnosis still more difficult.

The parovarian cysts are likely to burst spontaneously, but the contained fluid is so little irritative in character that peritonitic symptoms rarely follow, the thin, clear fluid being absorbed quickly and readily. On this account, these are the cysts of the abdominal cavity which best permit of puncture or aspiration, as these trifling operations are not uncommonly followed by radical cures.

In this connection I will describe a case which came under my observation in 1884. A girl 18 years of age came to me from Racine, who had a cyst extending above the umbilicus, and about the size of a uterus in the seventh month of gestation. She had been accused by her relatives of being pregnant, but knowing this was not the case, came on here. On examination I found the uterus of normal size on one side of the cyst, and in my office, with a common hypodermic syringe, I drew off and took away for examination a perfectly clear fluid, and told the patient to come down for operation. She went home to make her arrangements, and came down a month later. The cyst had entirely disappeared, without symptoms of peritonitis.

In a case like this there may, of course, be a doubt as to the correctness of the diagnosis of a parovarian cyst; but it is reasonably certain that this was the case, as one of the characteristics of this class of cysts is that rupture into the peritoneal cavity causes no peritonitis, and the fluid is absorbed without difficulty.

The method of operating on these cysts we owe to Dr. Miner, of Buffalo, N. Y., who published in 1869 his operation by enucleation.

The surface of the tumor, or, rather, the broad ligament, when exposed after the opening of the abdominal cavity, is incised down to the wall of the cyst. In the loose connective tissue layer the broad ligament is now separated from the cyst wall. By means of the finger or blunt instruments this separation can be continued, without the use of any force and without appreciable hæmorrhage, until the cyst is completely enucleated, and may be lifted out of the cavity. Evacuation of the cyst fluid after partial denudation of the wall, as a matter of course, facilitates enucleation.

In some cases of parovarian cysts, the development is to such an extent peripheral in the broad ligament that the uterine half of the latter is long enough for the formation of a pedicle. In such cases the usual operation for ovarian cysts may be performed at a sacrifice of the covering broad ligament, with tube and ovary. But such a peripheral development is not the rule, and whenever the cyst is developed down upon the uterus or into Douglas' fossa, or farther away still in the retroperitoneal space, enucleation is the only method available for its complete removal.

Difficulties during the course of enucleation arise when the connective tissue is tense and rich in vessels, necessitating dissection with the knife, and numerous ligatures. Further, if a large cyst develops deep down in Douglas' fossa, or even behind the rectum, or up into the mesenteries of the intestines, sigmoid flexure, or descending colon on the left side, or cæcum or ascending colon on the right side, we may find, in such cases, smaller or larger portions of these intestines spread over the surface of the cyst longitudinally and transversely, just the same as the Fallopian tube. It may be difficult, almost impossible, to remove the cyst wall from the intestines in such cases, and danger may arise from the fact that the intestines will not bear denudation of the muscular layers to any extent, as it easily becomes gangrenous.

The first case I met with was that of a married woman, 22 years of age, from Racine, who had a cyst which had been developing for two years. It was as large as a gravid uterus at term and contained a clear fluid. When the abdomen had been opened and the covering broad ligament had been incised down to the cyst-wall, I commenced dissection with a view to enucleation, but after working about half an hour dissecting and ligating vessels, I had advanced but very little. All that I could get out of the cyst was a piece as large as the palm of the hand. Consequently I was obliged to leave the cyst, after having united the opening into it with the abdominal wound and made use of a method of drainage of which I had intended to speak this evening, the so-called Miculicz drainage. The patient made a good recovery.

About a year ago Miculicz, of Cracow, proposed the following method of drainage, not only for retroperitoneal cysts, which can be excluded from the general peritoneal cavity, by uniting them to the abdominal wound, but also for drainage in the peritoneal cavity itself. He takes a small piece of iodoform gauze, stitches a silk thread to the centre of it, and folds it up in the form of a pouch, the silk thread being inside, that the pouch may be drawn up from the bottom by it. The pouch is now pushed down to the bottom of the cavity, and if nooks and corners

exist, it is pushed out so as to completely fill them. In the inside of the pouch is packed with iodoform gauze, as much as is necessary to completely fill up these spaces. This is the advantage claimed by Miculicz for his method of drainage as compared with the use of glass or rubber drainage. Besides the disinfectant properties of the iodoform gauze applied to the entire wall of such a cyst, Miculicz states as one of the advantages of his method that, by the capillary attraction of the gauze, everything is brought out—fluids which a glass or rubber drain could not bring out. We must remember that when we drain the peritoneal cavity with a glass drain down between the intestines or in the cavity of the cyst, we cannot always expect to get surrounding organs in so close contact with the drain as to drive the fluid out.

Further, there is this to consider: that a glass drain put down in the free peritoneal cavity has no tendency to bring out the fluid accumulated at the bottom; the intestines, filled with air, will simply swim in the fluid, and there is no pressure from without that will bring this fluid out of the glass drain, while the capillarity of the gauze is likely to help in that direction. I have had this remain in all these cases for about two weeks. As soon as the discharge ceases I commence first to pull out the loose gauze inside the sac. If a space is left after this has been pulled out I press in at that dressing a little more gauze. This is gradually removed, and the pouch itself is then pulled out by the thread gradually and finally. In all my cases it came out about the end of the second week.

The second case was similar to the first, inasmuch as there was no possibility, at least as far as my ability went, of getting the cyst out. It was a large cyst of eight years' development, in a woman fifty years of age, from Sioux City, Iowa. A prolapse of the uterus had developed during this time, and I was able to get out of the cyst, after considerable dissection, hardly more than two square inches. I used the Miculicz drain with the same result as before. The patient was operated upon October 31, 1886.

In the two above-mentioned cases enucleation was impossible, and we, with Ohlshausen, may have to class them under unfinished operations, as far as the extirpation of the cyst is concerned. But in cysts of the broad ligament, such an unfinished operation is, as a rule, followed by undisturbed and perfect recovery, and so I feel inclined rather to classify the above-named method of operating as a legitimate one for non-enucleable parovarian cysts, than to use the somewhat misleading and sinister term of incomplete operation.

The third case was a woman 50 years of age, in whom the cyst had taken three years to develop. The operation was performed February 2, 1887. The outside of the cyst looked smooth in this case because the connective tissue was so loose. It was the easiest thing imaginable to enucleate it from the retroperitoneal cavity in which it was developed. There were not two vessels to tie, and this accounts for the smoothness of the outer surface. This cyst was a typically normal one of that class, as it was covered all over with the broad ligament. The fluid was perfectly clear; no remnant of a blood clot was present.

Now, when the cyst has been enucleated, the question arises, what to do? I was afraid to leave this large retroperitoneal wound without drainage, so I used Miculicz's method, and the woman is well. It is, however, a debatable question, and in the future it is probable that in a case like this drainage will not be used. Authorities like Ohlshausen very strongly recommend, even for a cavity as large as that, not to drain at all—not even to unite the surface of the peritoneum so as to exclude the retroperitoneal wound from the general peritoneal cavity. He says that when there is no infection, no sepsis, during the operation, there will be no peritonitis, and no septicæmia afterward. He also states that he usually leaves the cavity alone after these enucleations, and that peritonitis seldom or never follows as a consequence of the operation, nor do pelvic abscesses form.

This is where the matter stands, and these are the points for discussion. I must say that I do not dare to rely so fully on entire asepsis during the operation as to leave drainage out. Undoubtedly the recovery of the patient is quicker and easier without than with drainage, as very often, in the latter case, a fistula remains which may keep open for months.

The fourth case was an old and rather anæmic patient, more than 50 years of age, but apparently 60. She was pale and emaciated, and had a large retroperitoneal cyst, located partly in the peritoneal and partly in the retroperitoneal cavity, or, in other words, of partly extra- and partly intra-ligamentous development. As a natural consequence, the enucleation was difficult, since the peritoneal cavity was at once entered. On the inside of the cyst were papillomatous masses such as are found in smaller growths, cystomas of the ovary. These, of course, always indicate malignancy. On the inside of this cyst the surface was rough, velvety from the diffuse papillomatous condition of the entire inner wall, and in some places grown out into a large papilloma, but in no place smooth.

The operation in this case was rendered more difficult, because the connective tissue surrounding the intra-ligamentous portion of the cyst was comparatively tense, and further, because it had grown up into the mesentery of the sigmoid flexure, so as to be covered by it. When the cyst was enucleated there was a portion of the sigmoid flexure that I was afraid of.

There is one other point beside the intestines which we should be careful to avoid in the extirpation of these retro-peritoneal cysts; that is, the ureters. As soon as we get into the neighborhood of the large vessels in the posterior wall, we must look carefully out for the ureters and locate them by palpation, as when the ureter is adherent to the cyst it may be easily torn. Miculicz's drainage was used in this case as in the others. The first three or four days she had no untoward symptoms, but on the fourth or fifth day she commenced to vomit, and became somewhat delirious and sleepy, and died, the temperature not having exceeded 101° or 102° F. I

saw her the evening before she died, and expected, on account of the vomiting, to find peritonitis, but there were no local symptoms at all. Then I supposed it to be sepsis without peritonitis, but the autopsy showed the cause of death to be uræmia.

We found in both kidneys, from pressure of the tumor on the ureters in a state of dilatation, not exactly hydronephrosis, but dilatation and subsequent atrophy, to a sufficient degree in my opinion to account for uræmia; for we know that patients with so much degenerative disease of the kidneys of any kind as to almost reach the limit of secreting tissue, are apt to get uræmia after operation. Whether the operation or the anæsthetic is the cause, I cannot say; but it is a well known fact. After the opening of the abdominal cavity, Miculicz's drain was laid down right between the loops of intestine, and, of course, a local but aseptic peritonitis formed along the drain. You will notice on the specimen I now present the impression of the meshes of the tissue of the drain, but outside of this a perfectly clear and smooth peritoneum.

As I remarked before, the chief point for discussion is the drainage. Ohlshausen does not drain in any such cases. This may be thus explained: He says that in many cases of this kind it is impossible to finish the operation. If we accept his classification, two of my cases would be termed unfinished operations; but I am certain that with an unfinished operation and a Miculicz's drain, a radical cure may be effected just as well, perhaps, as if the cyst had been taken out. This, of course, would apply only to a thin-walled cyst of a malignant character.

MEDICAL PROGRESS.

Recent Researches in Diuretics.—To what extent the Malpighian corpuscles and the renal tubules respectively take part in the secretion of urine, is not yet accurately known, although the researches of Heidenhain, Nussbaum, and others, have added much to our knowledge. It seems likely that an investigation into the mode of action of diuretics will throw great light on the question, because a diuretic drug may act either on the Malpighian corpuscles, increasing the flow of urinary water, or on the renal tubules, increasing the amount of urinary solids, or on both structures. The great difficulty, however, in experiments on the kidney in living animals, is that of estimating how much of the effect produced by a drug is due to changes in the circulation, or in the nervous system, which has an influence on the secretory activity of the kidney, as well as on the blood-vessels. Munk has, in his recent experiments, eliminated these factors by investigating the action of diuretic drugs on an excised kidney. The organ, after excision, was nourished under a pressure of 100 to 190 millimètres of mercury, by a stream of blood and salt solution through the renal artery. The drug was added to the liquid, and its effect noted by the amount and quality of the urine, collected through a canula placed in the ureter. Before the addition of any drug, it was found that the amount of urine secreted in an hour varied from 4 to 24 cubic centimètres; that this was a true secretion, and not a simple diffusion, was shown by the fact that it contained a greater proportion of saline constituents than the circulating fluid. The addition of chloride of sodium, nitrate of sodium or potassium, caffeine, dextrose, cane-sugar, or glycerine to the circulating fluid, increased the secretion of urine three to fifteen times, the pressure remaining the same; while in the case of nitrate of potassium and of caffeine, there was an increased rapidity of flow of the circulating fluid. Diuresis of this nature and under such conditions could only result, according to Munk, from a stimulation of the secretory cells of the kidney by the drug, a conclusion which, as regards caffeine, had already been arrived at by von Schroeder. An interesting result obtained by Munk was the appearance of hippuric acid in the secretion from the kidney, when benzoate of sodium and glycocol were added to the fluid circulating through the vessels of the kidney. As is well-known, benzoic acid given to any animal appears as hippuric acid in the urine; and this result has been supposed to be due to the action of the intact blood-corpuscles. But in Munk's experiment, these were absent; hence, he concludes that the transformation is probably brought about by the oxygen which is combined with the hæmoglobin.—*British Medical Journal*, Dec. 11, 1886.

Antifebrin.—Mr. J. K. Murray reports the following cases as showing the advantage of antifebrin over other antipyretics:

Case 1.—J. B., aged 3; meningitis, with a temperature ranging from 102° to 105.4° F. Three-grain doses were at first tried in the forenoon. The temperature fell from 105° to 101.4° during the first two days, but on the third evening 100.4° was registered. Five grains were then given every three hours, and the temperature fell to 99.4° after two doses, and remained thereabouts. When two doses were omitted the temperature rose again.

Case 2.—A. V., aged 2; broncho-pneumonia, with temperature from 103° to 105° F. At first three-grain doses were given every three hours, and for four days this kept the temperature below 100°. On the fifth day the temperature rose repeatedly above 102°, so five grains were given every three hours, and the temperature fell to 99.4°, and remained at that point.

Case 3.—M. L., aged 25; pyelo-nephritis. Fifteen-grain doses were used. The temperature fell to 99° within one hour and a half, and remained there for ten or twelve hours. I had the temperature taken every three hours, and whenever 101° was registered, fifteen grains were given. Quinine in ten-grain doses was tried under the same conditions. The temperature fell about 2.4°, but rose 104°, and sometimes 104.8° within six or seven hours.

Antifebrin seems much more powerful than quinine, kairin, or antipyrin. It equals antipyrin in the duration of its effects, and in this respect surpasses

quinine or kairin. It is only excelled in the quickness of its action by the external application of cold. Its effects are evident within an hour, and they last from ten to twelve hours when a full dose has been administered. When administered for a long time, the dose must be increased. It produces profuse sweating and redness of the cheeks; it diminishes the pulse-rate, and distinctly increases arterial tension. I found no depressing effects follow its administration even when full doses were given. Antipyretics belong to two great classes, namely, those which diminish tissue metabolism; and, secondly, those which increase the loss of heat. From the sweating it produces, and the rise in arterial tension, one might conclude that antifebrin belongs to the second class as well as the first one. This might explain the quickness of its action, as antipyretics of the second class act more speedily than those which diminish tissue metabolism.—*British Medical Journal*, April 23, 1887.

CONDITIONS OF SUCCESSFUL PRODUCTION OF LOCAL ANÆSTHESIA IN TOOTH EXTRACTION.—DR. A. LEBRUN, of Brussels, and his house-surgeon M. Andries, have published the notes of twenty-nine cases in which they employed local cocaine anæsthesia for the extraction of teeth. In twenty-three cases the anæsthesia was complete, in one case partial. In the remaining five cases the procedure was unsuccessful. This is attributed by them to the difficulty of introducing the short straight needle of the ordinary hypodermic syringe in the case of the second and third molars, and also perhaps to no precautions having been taken to prevent the escape of the liquid. They point out that M. Viau, of Paris, who succeeded in producing complete anæsthesia in every one of his eighty-six cases, made use of a specially constructed syringe, with a holder by which it could be grasped firmly between the index and middle fingers, and provided with needles of various degrees of curvature; also that he surrounded the tooth with plugs of cotton-wool, and applied the finger over the puncture after the needle. Besides which he made the patient keep rinsing his mouth with cold water during the five minutes that intervened between the introduction of the cocaine and the actual operation. These precautions were not observed by MM. Lebrun and Andries. They used, however, a solution similar to that of M. Viau—viz., fifty centigrammes (seven and a half minims) of a 2 per cent. solution of carbolic acid containing five centigrammes (three-fourths of a grain) of hydrochlorate of cocaine, half of which quantity was injected into each surface of the gum. —*Lancet*, March 19, 1887.

TREATMENT OF THE URETHRA AFTER REMOVAL OF THE WHOLE PENIS.–MR. PAGE reports the case of man, æt. 57, the subject of phimosis, and of syphilis many years ago, who had had for twelve weeks a rapidly enlarging sore and growth on the penis, which on his admission to St. Mary's Hospital, involved the organ almost down to the root, and was obviously an epithelioma (since confirmed microscopically). He had been under the care of a legally qualified practitioner for two months, but it was not until two days before, when the ulcerated mass had attained this vast size, and the glands in the left groin were enlarged, and ulcerating, that the man had been advised to come to the Hospital. The penis was at once removed, and the scrotum having been divided through the raphé, the corpus spongiosum—rendered rigid on a staff—was dissected free from the rest of the penis, and so brought down behind the scrotum, where, ample in length, it was sutured to the skin. Reunion of the scrotum completed the operation, a drainage-tube being passed through it from above downwards, in the site, that is, of the now displaced urethra. At the same time glands were scraped away from the groin, but no dissection was made, as they seemed to dip deeply around the vessels. It was hoped that some of the enlargement might be due to inflammation alone, and this happily turned out to be the case, for much of the swelling subsided, and when, fourteen days afterwards, a solitary protruding gland had been scraped out, the wound forthwith began to heal. The scrotal wound had healed immediately, and the man had no difficulty whatever, either in retaining his water, or in passing it in a sitting posture. There is no better method than this of dealing with the urethra when, the whole penis having been amputated, the urethral orifice must of necessity be sunk and lost within the scrotum. Impressed with its value twenty years ago in a case under Professor Humphry, in Addenbrooke's Hospital, I have practised it with advantage in other instances during the past few years.—*British Medical Journal*, April 23, 1887.

THE MANUAL DELIVERY OF THE AFTER-COMING HEAD IN CASES OF PELVIC DEFORMITY.—In a monograph DR. A. MARTIN aims to prove the superority of the Smellie-Veit extraction of the after-coming head over the forceps. This instrument he has had occasion to use only once in the course of an extensive practice. He tabulates thirty-eight cases in which he resorted to manual delivery in case of pelvic deformity. These thirty-eight cases concern thirty-two mothers, and in eighteen the diagonal conjugate measured between nine and ten cm., in eleven between ten and eleven cm., in three between eleven and twelve. The following were the results in previous labors: Forty were spontaneous, twenty-three required the forceps, nine version, three extraction, three perforation, two induced labor. Of the thirty-eight labors conducted by M., thirty-one children were born alive (in ten with pressure markings), seven delivered dead, six of whom had succumbed before manual delivery of the head was resorted to. In none of the living children was there any evidence that the method of delivery had been injurious, and the same remark holds true of the mothers.

These statistical data certainly speak in favor of the Smellie-Veit extraction method and are valuable in settling that vexed and constantly recurring question as to the advisability of applying the forceps to the after-coming head.—*American Journal of Obstetrics*, April, 1887.

THE
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PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, MAY 21, 1887.

AMERICAN MEDICAL MISSIONARY SOCIETY.

To answer a number of inquiries in the most economical and satisfactory manner, we will state that a preliminary organization of this Society was effected at a meeting of physicians and clergymen of different denominations in this city, in March, 1885, and it was legally incorporated in July following. The experience of missionaries in all uncivilized and pagan countries had made it apparent to all interested in the spread and ultimate triumph of Christianity, that the greatest obstacle in the way, was the great difficulty of gaining access to the people of those countries; and also that the most successful mode of overcoming this obstacle, was to qualify the missionaries to perform successfully all the duties belonging to practitioners of medicine and surgery. But to acquire such medical qualifications and skill by the missionary, requires not less than three years of faithful study and a corresponding expenditure of money, while but a very small proportion of the young men and women who are willing or anxious to spend their lives in endeavoring to convert the heathen to Christianity have the pecuniary resources necessary to enable them to gain the medical education desired. Hence it becomes necessary to make adequate and reliable provision for enabling such to accomplish that object, and thereby enable them to do more both in extending a knowledge of Christianity and in relieving human suffering as missionaries among the people of Asia and Africa in ten years, than they could do in thirty without the knowledge of medicine.

It was expressly for this purpose that the American Medical Missionary Society was organized, and for this purpose only has it thus far prosecuted its work. The Society is inter-denominational and evangelical in character. It is constituted of three departments: 1st, a Board of Managers having the supreme control; 2d, a Board of Honorary Directors having advisory functions; 3d, an Executive Committee composed of the officers of the Board of Managers, having the power to transact the business of the Society during the recess of said Board. It is no part of the object of this organization to establish Foreign Missions, or to send either physicians or ministers into the missionary fields of labor under its own superintendence, but to furnish systematic and well directed aid in furnishing a full medical education to such young men and women belonging to any of the recognized evangelical Christian denominations as can comply with the following rules:

1. Every applicant must furnish the Executive Committee satisfactory testimonials of earnest Christian character and ability for Christian work from his or her Church, Society, or Board of Missions.

2. Every applicant must be a graduate of some college, or furnish evidence of having received a fair liberal education.

3. Every applicant must pass such a physical examination as is required by our good insurance companies.

4. Every applicant must agree to take a full medical course of three years, and to graduate.

5. Every applicant must bind himself or herself, on completion of the course of medical education furnished by the Society, to go out to the foreign field as a medical missionary, or else to pay back to the Society the cost of the medical education furnished.

It will be seen that these rules exact evidence of Christian character, and both mental and physical ability for Christian missionary work; and also guard against the tendency manifested in some quarters to send, as *medical missionaries*, men and women with only very inadequate amount of medical knowledge. It is not the intention of the members of the Society to devote any part of the money that may be received to the establishment of any medical college, as the work can be more economically and efficiently done in the best class of medical colleges already established in various parts of the country. As none of the officers receive salaries, all the money contributed can be devoted directly to the work of education, except a very limited amount for stationary, printing, etc., for the Secretary and general agent.

In the brief period since its organization, the Society has received in all eight students. Three of these entered the Rush Medical College, four the Chicago Medical College, and one the Woman's Medical College, of Chicago. Three of the above graduated this Spring, after a thorough three years' course; one having served eighteen months as house

surgeon in the Cook County Hospital of this City. Two of these go, as appointed by the American Board of Foreign Missions, to Africa, to Natal East Coast, and the other to the West Coast. The one under appointment, of the Presbyterian Foreign Mission Board, to go to China, was hindered by domestic reasons, and refunded to the Society the cost of his medical education. Rev. Mr. Mapleden, of the Baptist Board, who had been in India eight years as a missionary before he commenced his medical studies under the Society, did not complete his course, but obeyed an order of the Board to proceed at once to fill an important post made vacant by the death of a former co-worker in the foreign field. This is the first student ordered to the foreign field from this Society without a diploma, matter much regretted, as the chief aim of the Society is to insure thorough medical and surgical training, so as to furnish the varous foreign missions with worthy representatives of the American medical profession. Only such as can take the time to complete the course of three years are sought.

The Secretary has received a large number of applications, from different States of the Union, from young men and woman who are highly recommended by their Denominational Societies and Boards, as most suitable persons to make effectual, and worthy representatives of our Christian Faith and our honored profession. Hence, there is reason to believe that the number will be greatly increased by the opening of the Fall term of the medical colleges of our country. The Treasurer's book shows an income of $1514.24 and an expenditure of $1138.50. Special pledges have been given by friends of the Society to educate six students. There is no stated income except personal pledges, as no legacies of thousands are yet available. It is hoped, therefore, that the agent will receive the aid needed not only from the friends of missions generally, but from members of the medical profession who should have a special interest in the work undertaken by this Society. The two young men, sons of missionaries, born in India, set out last Fall to visit the colleges and seminaries of America, and have reported 117 colleges and seminaries visited, and 1836 students who offer themselves as willing and desirous to go to the foreign field. Here are nearly 1500 young men, and at least 300 young women, many of them to be educated as medical missionaries, with little means to aid themselves; and consequently will be needing just the kind of aid that the American Medical Missionary Society desires to give. A successful Branch of the Society is formed at Minneapolis, Min., and it is the object of the parent Society to plant Branches in as many of the States of the Union as possible, and thus facilitate the work and curtail the expenses. Two or three other States are doing something on this line, yet seemingly not quite in harmony with the broad principles of this Society.

Any further information concerning the work of the Society can be obtained from the Secretary, Dr. H. Martyn Schudder, in the Argyle building, N. W. Cor. Michigan Ave. and Jackson St., Chicago, or of the present general agent, Rev. Wm. Stoudenmire, whose office is with the Secretary.

WHY DOES BERGEON'S METHOD NOT MEET WITH BETTER SUCCESS IN THIS COUNTRY?

The American physician is essentially a practitioner of medicine, a therapeutist, a healer of the sick. He is inclined to rush at every new thing in therapeutics like a bull at a red rag. This has its advantages, to be sure; but it has also its drawbacks, as is amply illustrated by the experience of the last two months with regard to M. Bergeon's method of dealing with consumption. Gas bags and wash-bottles have hardly been produced rapidly enough to supply the demand. Mineral springs throughout the country have been called upon to furnish sulphuretted hydrogen. The press has published absurdly extravagant accounts of the marvellous cures being thus effected. The wildest hopes have been entertained by the profession and laity alike, and ill-judged, premature statements uttered.

Such has been the status of affairs until very recently. Now, however, there are signs of the reaction having already set in. In this city physicians are beginning to acknowledge that they are not getting the results they looked for. The treatments have produced colicky pains and in some instances diarrhœa. The fever has not always been lowered, while cough and expectoration have not ceased. In a word, Chicago physicians are coming to regard the method as overestimated. The *New York Medical Record* for May 7, 1886, contains a report of Dr. C. L. Dana's experience, wherein he states very plainly that, in his hands, the method has not produced such results as are claimed by many others. On the other hand, there is much testimony of a trustworthy kind to its remarkable efficacy in certain cases. This is particularly true of the reports still coming from France. In other words, we are driven to the conclusion that in this country this method does not achieve as encouraging results as in the land of its birth. If such

be the case, the query arises at once, to what is this due?

From a careful perusal of the literature of the subject to the present time, as well as from personal experience and conversations with many practitioners in this city who are trying the method, we are inclined to think it is not so much owing to inefficiency of the method itself, as to defects in its administration. We have used for the most part sulphur waters without knowing the percentage of sulphuretted hydrogen they contained or gave up to the stream of carbonic acid passed through them. Take, for example, the Ypsilanti water, so extensively employed in Chicago and vicinity: It is said to contain 21.0786 cubic inches of hydrosulphuric acid to the gallon. Yet it is fair to assume that, brought from the spring in barrels and bottled here, as it is, much of its free gas has escaped. So far as we can ascertain, no analysis has been made of the two gases after having passed through the wash-bottle, with a view to ascertain the proportion of the two. If we are not mistaken, M. Bergeon charges his carbonic acid with 1 per cent. of sulphuretted hydrogen. Does any physician here know exactly what percentage of the two he himself has been using?

Again, a number of the physicians here have been in the habit of filling their gas bags with several gallons of CO_2 and depending upon this supply for several treatments on successive days. This is bad, since atmospheric air enters the rubber receptacle by endosmosis, under such circumstances, and occasions colic to the patient. Moreover, the apparatus, used in this country generally, does not admit of an accurate measurement of the amount of gas injected; the argument that one can determine this by the number of times the pressure bulb is emptied, to the contrary notwithstanding.

In the light of these and other facts, best known, perhaps, to each practitioner, is it fair to M. Bergeon to content ourselves with inexact trials of his method? Would it not also, for our own sakes, be well if some of our physicians with hospital opportunities at command, were to undertake a series of careful experiments to fix definitely the dosage of the two gases, and thereby establish this treatment upon a scientific basis? If such investigations are being conducted in this country, we have not heard of them, and shall give their results hearty welcome.

For a more careful consideration of this subject we would direct especial attention to the admirable presentation of certain facts in regard to the proper use of Bergeon's method in the letter by Dr. Babcock in another department of this issue of THE JOURNAL.

PHYSICIANS' NAMES IN NEWSPAPER ADVERTISEMENTS.

In the *Chicago Times*, of May 8 and 15, appeared an advertisement of the Ypsilanti Mineral Water as a positive cure for consumption, rheumatism, catarrh, cancer and other diseases, with extracts from an article read before a recent meeting of the Chicago Medical Society on Bergeon's method of treating phthisis, and illustrated with a cut of the apparatus made by E. H. Sargent, of this city, for administering the gas. The advertisement also contained the names of several well-known physicians of this city, and in such a manner as to show that they practically endorsed all that was claimed in the absurd advertisement.

In an obscure corner of *The Times*, of May 15, was published a protest from several of the physicians against such unauthorized and outrageous use of their names by an advertisement in a daily newspaper. But, as already said, their names were again used in a similar advertisement in the same issue.

We are authorized by Drs. Robert H. Babcock, Charles Gilman Smith, Sarah Hackett Stevenson, M. R. Brown, Wm. T. Belfield, Marie J. Mergler, C. M. Fitch, and Walter M. Fitch to state that such use of their names was unauthorized, and without their knowledge or consent; an outrage both to them and to every reputable physician in Chicago; and they do not recommend the Ypsilanti water as the best source from which to obtain the sulphuretted hydrogen for Bergeon's method—and the reason for this may be more clearly seen in Dr. Babcock's letter on Bergeon's method, in this issue of THE JOURNAL. But even were the Ypsilanti water the best source, the proprietor of that water justly deserves the condemnation of all reputable physicians for his improper methods of advertising, and for his unwarranted use of the names of reputable physicians. Nor is there any reason why Mr. Sargent should advertise his apparatus in the secular press. The public cannot and should not use the apparatus, since in hands other than those of physicians great injury to the patient may result.

We are informed by an attorney that physicians whose names are thus used can most probably stop it by legal proceedings. Is it not time that something of this kind be done? Are the names of reputable physicians private property, or do they belong to any quack advertiser who thinks he can make money by using them improperly? Here is one of the most flagrant violations of common decency to members of the profession that has occurred for some time, and it is to be sincerely hoped that the physicians of

Chicago will show that such methods will be neither endorsed tacitly (by inaction) nor patiently endured. Is it not a duty to themselves and to other physicians to stop such advertisements at once and permanently?

SOCIETY PROCEEDINGS.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, Friday, March 18, 1887.

THE PRESIDENT, CHAS. WARRINGTON EARLE, M.D. IN THE CHAIR.

DR. W. W. JAGGARD presented a

PUERPERAL UTERUS, SHOWING ENDOMETRITIS PUERPERALIS.

The material was placed at his disposal through the courtesy of Drs. Pickard, Hibbard and Plummer, of the Cook County Hospital.

History.—Patient 64003, Ward 14, Swede, 24 years old. I para. Labor March 13. Vertex presentation, R. O. P.: First stage, ten hours; second stage, three hours; third stage, ten minutes; male child; wt. 6 lbs., 13 oz.; condition good. Severe post-partum hæmorrhage, after expression of placenta; intra-uterine irrigation with hot water, vinegar, finally mercuric chloride, 1: 4000: perineum sutured, vaginal douche. Chill, three hours after delivery; temperature 101.8° F.; pulse rapid and feeble. Patient died four days later; temperature reaching the maximum, 103° F. a few hours before death.

The autopsy disclosed puerperal ulcers in the vagina, diphtheritic endometritis, splenic tumor, ulcerative septic-endocarditis. The ovaries, tubes and peritoneum were not involved in the inflammatory process. The case apparently corresponded to the form, described by Buhl in 1861, as "Puerperal pyæmia without peritonitis" (metro-phlebitis). The poison had apparently gained direct access to the veins, the endometritis being only a prominent symptom.

It must not be supposed that the mortality rate from child-bed fever in the lying-in wards at the Cook County Hospital is high. About 400 women are annually delivered in that institution, and less than one-half of one per centum perish from puerperal fever. Rigid antiseptic precautions, in conformity with the Semmelweis doctrine—every case of child-bed fever arises from the resorption of decomposing organic matter through some local lesion in the genital track—have been instituted and carried out with commendable intelligence, skill and zeal by the internes. The only criticism that Dr. Jaggard wished to make was upon the use of mercuric chloride for the purpose of intra-uterine irrigation.

DR. CHARLES WARRINGTON EARLE: I think there is evidence accumulating at this time which shows that we are not certain that the decidua comes away completely, and in a great number of cases there is not only a considerable amount of this left, but also pieces of membrane, etc., which no one, however careful, can detect. Whenever a high temperature takes place on the eighth or ninth, or tenth day, I am in the habit of washing out the uterus, and then if the high temperature continues, to curette, and in almost every case the amount brought away astonishes everybody, particularly the attending accoucheur. Sometimes 2 or 3 drams are brought away; the temperature becomes normal in twelve hours and a speedy convalescence takes place. I would like to ask what the experience and observation of the other Fellows of the Society has been in regard to the certainty which they feel that *everything* comes away.

I am getting together a series of cases in which I will endeavor to show that where there is a high temperature that comes on as late as the tenth or eleventh day, if it does not come down after a thorough intra-uterine douche with carbolized water, curetting should be resorted to, and that it will in almost every case bring away an amount of material that none of us expect. In many of these cases the temperature goes down at once.

I had a case on Hoyne street, which took place in the practice of a graduate of one of our schools, a young man of excellent record, and one who is thoroughly in accord with us on antiseptic obstetrics. On the tenth day the temperature was 103½° F.; an intra-uterine douche did not bring it down. The next day it was 105½° F. I curetted and brought away a mass of material which surprised me as well as the practitioner. The woman made an excellent recovery without a bad symptom.

DR. A. REEVES JACKSON: It seems, to look at this specimen, that the curettement would have to be exceedingly deep; especially after the infection of the walls, you could hardly get away all the septic influence. There may have been a stage in the history of that case in which it would have been a proper treatment.

DR. CHRISTIAN FENGER: In consultation last fall, I saw a case of abortion, not childbirth, where part of the placenta was left. The temperature had been down for over a week and the woman was apparently perfectly well. The doctor in charge decided to curette that part of the placenta which remained. The curettement was immediately followed by sepsis that terminated fatally within a short time. So it seems that under certain circumstances curettement may open up sepsis. He curetted to remove the placenta.

DR. JAGGARD said he supposed Dr. Earle referred to Carl Braun's practice of curettement. He did not care to discuss that subject at this meeting. Certainly, in the case presented curettement could have accomplished nothing. The poison—ptomaine, cadaveric poison or whatever it was—had already entered the veins.

DR. A. REEVES JACKSON read a report of

A CASE OF REMOVAL OF THE OVARIES AND TUBES FOR FIBRO-MYOMA OF THE UTERUS.

I present to the Society a pair of ovaries and cor-

responding tubes, which were removed for the purpose of a possible beneficial influence on the hæmorrhage caused by bleeding myoma of the uterus. The woman was single, about 40 years of age, menstruated first at the age of 13, and was always regular until three years ago, when menorrhagia occurred. At the same time there appeared at intermenstrual periods—about half way between—occasional discharges of a yellowish thin fluid. These discharges were preceded by pain in the left iliac region and some swelling. The menorrhagia increased, the other discharges continued about the same, and bleeding became so nearly constant that finally it was difficult to distinguish the menstrual period. About a year and a half before I saw her, there had been discovered a tumor in the abdomen. Ergot was then used systematically and properly, but it had no restraining influence on the hæmorrhage and she became anemic, exhausted, and had nervous headaches, cardiac palpitation and loss of appetite. I found a uterine fibroid the size of an orange and suggested removal of the ovaries, although she came for the purpose of having the uterus removed. The operation was performed at the Presbyterian Hospital three weeks ago. The left ovary was exceedingly small with no trace of recent ovulation; the tube was enlarged and contained a small amount of yellowish fluid. Possibly this condition of the tube with the previous history of occasional swelling may have indicated that the latter was from hydrosalpinx. Here are the specimens. The right ovary was enlarged and the tube normal in structure. There was a Graafian follicle which had just broken. She had menstruation two weeks before, and the condition of this follicle seemed to indicate that it had no temporal relation to that menstrual period. The highest temperature was 100.1° F., and was reached on the fourth day. The woman is now entirely well, is sitting up, and will probably be able to go to her home, a hundred or two miles distant, in the coming week. Hæmorrhage appeared on the third day after operation and lasted thirty-six hours. It was then checked by vaginal tampons. She has had no discharge of blood since that time. What effect the operation will ultimately have upon hæmorrhage and growth of the tumor cannot be determined at this stage of the history.

Dr. Christian Fenger made some remarks on

THE OPERATIVE TREATMENT OF RETRO-PERITONEAL CYSTS IN CONNECTION WITH MICULICZ'S METHOD OF DRAINAGE.

(See page 568).

Dr. A. Reeves Jackson: If I remember correctly, Dr. Miner's discovery or suggestion in regard to enucleating tumors was not originally for the purpose of removing only sub-peritoneal cysts, but to make possible the removal of ovarian and other tumors, in which the adhesions were so extensive as to make it impossible to remove them in any other way. I think his first case one in which he failed to find a pedicle and so was driven to enucleate. I think he removed very few tumors in this way, because he did not find the necessity for doing it. But when adhesions were so extensive and tense that it was impossible to remove the growth, he made a slight incision around its lower portion, and then, seizing it above, after emptying the cyst, he passed a finger or suitable instrument around until he had loosened all the attachments. It was a valuable suggestion, and operators have availed themselves of it in suitable cases.

In regard to the removal of these sub-peritoneal cysts, one of the cases related by Dr. Fenger shows clearly that the operation of enucleation is not always necessary. The tapping was followed by complete cure. Tapping has frequently been successful and these are the cases in which it is the proper method of treatment. I am aware that many hold a different opinion and advise extirpation always. If the tumor should refill after tapping and the patient's health fail, I should be in favor of removing the cyst by ordinary methods.

In regard to Miculicz's plan of drainage, it has always seemed to me that it could only succeed in removing the thinner parts of the fluid; the more dense constituents could not be carried away as well by this method as by a tube of glass or rubber. I can see an objection to it in the possibility of a long convalescence resulting from the large fistulous opening which might be left, and which would be embarrassing for months. In the last case detailed by Dr. Fenger, we have an illustration of the importance of knowing the condition of the kidneys before operating for any abdominal tumor of long standing. Many operators make it a point to know that the patient passes a sufficient quantity of urine of a proper character before consenting to operate. They insist on knowing that the kidneys can do their work, and the rule is a good one.

Dr. Christian Fenger: In regard to the remarks of Dr. Jackson, about the insufficiency of the Miculicz's drain, I will say that I forgot to state that I do not use it now, without at the same time inserting in the centre of it a glass or rubber drain. In an operation last Autumn, in which I used the Miculicz drain without a glass drain, I found the outside dressing dry and still about a pint of fluid at the bottom of the abdominal cavity after the patient was dead; so since that time I have always inserted a glass or rubber drain in the centre of the Miculicz drain.

As to the remark regarding the examination of urine: Of course we always do this. In this case there was no albumen, but I cannot say that it was examined as to quantity.

In reply to the question of Dr. Jaggard as to whether I have used the drain in pelvic abscess and acute suppurative peritonitis: I have not used it in pelvic abscess, but have used it in tuberculous peritonitis, in a case last fall which looked like a tumor; there was tuberculous peritonitis with a large localized cavity or space filled with a fluid more or less serous. I used the Miculicz drain with a glass drain, and the patient was still alive two or three months ago, and I do not know whether the drain is out yet. I have used it in other cases which show its efficiency. In a case of chylous ascites that had been tapped

and tapped and had refilled, and in which laparotomy had been performed the year before and still it had filled again, I opened and drained the peritoneal cavity, and used the Miculicz drain with a glass tube, with perfect success. I always use it in acute peritonitis, and see no reason why it should not be used in peritonitis as well as in other cases. At the time Mikulicz published his paper on this form of drainage, it was only in peritonitis that he had used it.

In regard to the similarity between labor and operation, as far as the question of eclampsia is concerned: That is one of the subjects which was brought up for discussion in the *Berliner Klinische Medicinische Gesellschaft* last fall, between Leyden and Virchow, in which no definite conclusion was reached.

I fully agree with Dr. Etheridge that vaginal drainage, mechanical of course, is the most rational method because it draws best. My own experience is limited as have only employed it twice, and both patients died. We dread the vagina as a septic cavity and the reason why we should not drain through it, is fear of sepsis from the vagina up into the abdominal cavity. But I believe with our new precautions, the vagina could be kept so aseptic that retrograde sepsis from it could be prevented, I believe also that vaginal drainage ought to be used more than it is, and we need not be so afraid of it as we are.

SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

Stated Meeting, March 9, 1887.

DR. F. I. KNIGHT, CHAIRMAN.

ALBERT N. BLODGETT, M.D., SECRETARY.

DRS. E. W. CUSHING and MORTON PRINCE read a paper on

A CASE OF CHRONIC ARSENICAL POISONING OF SUPPOSED CRIMINAL NATURE, WITH ESPECIAL REFERENCE TO THE MEDICO-LEGAL ASPECT.

Dr. Cushing stated that the circumstances of the patient made the case specially interesting, from the evident motive which could be traced. The patient was a young man, supposed to be in possession of property to the extent of about four million dollars, and was alone in Boston. He was found at the house of a friend of his, not of his family, on Beacon street, and this "friend," with the assistance of his wife, took the sole direction of the nursing of the sick man. The medical treatment was in the hands of a so-called physician, really an apothecary and chemist. A large amount of the patient's money had been invested in the manufacture of a patent medicine, in which the "friend" at whose house the patient was staying was also interested. He said that it might be useful to members of the medical profession to know how difficult it is to bring a case before the courts, even when the evidence is apparently plain and convincing.

PROF. E. S. WOOD stated that he was in a position to add somewhat to the report of the case, in the presentation of some of the results of the quantitative analysis of the vomitus and the excretions from this patient. The quantitative analysis was made, in this case, only for the personal satisfaction of Professor Wood, as the case had not advanced sufficiently far in the way of a prosecution to call for the analysis in behalf of the courts. A complete analysis is not usually made at so early a stage in the investigation of similar cases. The vomitus, which was placed in his hands on May 1st, contained one-fourth of a grain of arsenic. That of May 8th contained one-third of a grain. The urine of May 1st and 2d contained 5.4 mg. It was thought that this amount of arsenic might have been contained, as an impurity, in the medicines prescribed by the person attending the patient. These were examined, and were found to be free from arsenic. The intermediate urine, until June 1st, was not examined, but that passed on June 1st was examined, and was found to be free from arsenic. The date when the arsenic disappeared from the urine is, therefore, not yet definitely known. The only other case in which analysis was carried out in this way was that of a patient who, by mistake, took, during a considerable period, a poisonous dose of Fowler's solution, and the symptoms of arsenical poisoning were rapidly induced. In this case, analysis at the end of six and one-half weeks showed arsenic, but the urine, when examined at the end of seven and one-half weeks, did not contain arsenic. The occurrence of paralysis is not confined to chronic forms of arsenical poisoning, but may follow acute poisoning from this cause. Seligmueller quotes several such cases.

DR. PRINCE said that he had made, by request, an examination of the nerves and muscles in this case. At that time the patient was almost completely paralyzed from head to foot, only a few movements being left, and these difficult and painful. Even moving the limbs passively caused great pain. There was more or less complete loss of sense of touch over all four extremities. Sense of pain was increased over some parts, but perception of it was retarded three seconds by the watch. Perception of Faradic current also diminished. Loss of Faradic excitability of all muscles of legs, forearms and hands. Triceps of right arm respond feebly, but biceps of both well. Faradic excitability of ulna and median nerves of both sides lost, also of nerves of legs. To the galvanic current there was a most exquisitely developed reaction of degeneration in all the muscles of the right forearm and hand (including loss of reaction in nerves). The same was found true of the extensors of the left forearm. The examination was not continued further on account of pain caused the patient by movement of the limbs. The same condition of affairs probably existed in all the paralyzed muscles.

The interest in this case, as indicated by the title of the paper, centred in the question of the nature of the paralysis, and the other allied symptoms. Were they due to arsenic or to alcohol? In the first place there is no question but that arsenic was given to the

man, and that, too, in poisonous doses. But on the other hand, the man was a hard drinker, was in the habit of going on constant sprees, lasting many days at a time; and had just been on a hard spree when the attempt was made on his life. Now the *paralytic* picture presented was just that of alcoholic paralysis in its most severe form. Alcoholic paralysis has only recently been thoroughly studied and understood; in fact, the best observations have been made during the last two years, and since the above case occurred. The *clinical* picture is just such a one, in almost every detail, as that which we are discussing. There is the extreme and general paralysis, the loss of sensation with hyperæsthesia, the pain and the atrophy with the reactions of degeneration. The resemblance can even be extended to the mental condition. According to Dreschfeldt[1] and Buzzard[2] there is a peculiar and characteristic delirium observed in alcoholic paralysis. A similar mental condition was present in their case.

On the other hand, the clinical picture is also like that observed in many of the cases reported of arsenical poisoning. In the severe cases there seems to have always been present the main and salient symptoms, namely, paralysis with atrophy and reaction of degeneration, loss of sensation, pain, and hyperæsthesia. Clinically and ætiologically, then, it must have been difficult, especially as a medico-legal question, to eliminate either the arsenic or the alcohol as a factor in causing the paralysis and allied symptoms.

Pathologically considered, the difficulty is as great. The pathological condition present in alcoholic paralysis is generally admitted to be a peripheral multiple neuritis. The cord is not diseased. Our knowledge, on the other hand, of the pathological condition present in arsenical paralysis is very imperfect. About the only information we have is derived from the experiments of Popow,[3] of St. Petersburg, on rabbits. According to these experiments, in acute cases, when death ensued in the course of a few hours or at the end of from three to six days, the effect of arsenic is limited to the anterior gray matter of the spinal cord. There is found a poliomyelitis. The white matter and the peripheral nerves are unaffected. In chronic cases, wherein death ensues in the course of three months, the inflammation is more diffuse, affecting the white as well as the gray matter, especially the postero lateral columns. The spinal nerves were entirely unaffected even in these cases.

Freyssig, on the other hand, claims that he has found all these changes in the spinal cord of healthy rabbits, while in six rabbits which had been poisoned by arsenic he found no pathological changes whatever in the cord. Dana, in the January number of *Brain*, states that according to Pistorius, the nervous system of rabbits and guinea pigs is very sensitive to arsenic, while that of cats and dogs is less so. Jaeschke, too, found only a few small hæmorrhages in the spinal meninges[4] of a dog which developed paralytic symptoms after a fatal dose of arsenic. Very little can consequently be inferred from experiments on animals, and we do not find that any examinations have been made on man after death to determine this point.

As has been said, the symptoms are very similar to those from alcoholic paralysis, which is known to be due to multiple neuritis. On the other hand, a diffuse inflammation of the cord would also explain the symptoms. It may be, as is most probable, that both core and nerves are affected in severe cases. At any rate, if the case we are discussing had ended fatally, and had come before a jury, whatever anyone's individual opinion might have been, it would have been very difficult to convince the jury that, notwithstanding the known ingestion of arsenic, a certain portion of the victim's condition was not due to alcohol, and even that this might not have been the exciting cause of his death. There is reason to believe that there were experts ready to take the stand and testify to this opinion. This complication is likely to arise again in other cases. A decision under such circumstances can only be arrived at by extending our knowledge of the action of arsenic on the spinal cord. It is to be hoped that pathologists and medical examiners in the future will at the first opportunity make investigation into this matter and thus increase our knowledge.

In reply to a question by Dr. P. C. Knapp as to the condition of the mental faculties, and the location of the paralysis in the patient, Dr. Cushing said that the mental condition of the patient was unimpaired, and his faculties were clear. He could remember the main events in his past life, confessed to the abuse of alcohol, remembered the jelly which had caused the relapse in his illness, and could state who had given him that delicacy. For a time he was kept in a house of ill fame on Hudson street, and from this quiet retreat he said that he was brought, on several occasions, to the residence of his "friend," on Beacon street, to dine, and was then afterward restored to the caresses of his entertainer at the before-mentioned brothel.

Dr. Bowditch asked if it were possible that the arsenic could have been absorbed into the system of the patient from the papers on the walls of the house in which he was stopping.

Professor Wood stated that the papers were examined and were found to contain no arsenic. The amounts obtained from the vomitus and from the urine of the patient were much greater than would be obtained from chronic poisoning by absorption from the wall-papers, the quantity ranging from one-fourth to one-third of a grain on the different occasions when the examinations were made, thus showing that the arsenic must have been administered at varying times, and in relatively large amounts.

Dr. Bowditch asked what is the process by which the attention of the grand jury is attracted to a case of criminal nature, and how a physician should proceed in a case in which there is reason to suspect a

[1] Further Observations on Alcoholic Paralysis. Brain, Jan., 1886.
[2] On Some Forms of Paralysis from Peripheral Neuritis.
[3] Ueber die Veränderungen im Rückenmarke nach Vergiftung mit Arsen und Blei. St. Petersburger med. Wochenschrift, 1881, No. 36.
[4] Virchow's Archiv, Bd. 102, 1885.

criminal attempt upon the health or life of another?

PROFESSOR WOOD stated that criminal proceedings are instituted by calling the attention of the district attorney to the facts in the case, which are then carefully considered by him; and if the evidence, as presented, seems to him sufficient to secure the conviction of the person complained of, the case is submitted to the grand jury. All the experts in the case are called, and after the deliberations of the grand jury, the district attorney is at liberty to prosecute the case, if, in his judgment, it is advisable to do so. The objection to commencing proceedings of a criminal nature upon insufficient evidence is that the case first goes before what is called the petit jury, and if there should not be sufficient evidence to hold the person accused at that time, the case is at once dismissed, and cannot be again called up, as a man cannot be tried twice upon the same charge. It is, therefore, considered wiser to delay proceedings in a doubtful case, in the hope that additional evidence may be procured, which can then be used in the trial, which may be commenced at any time after the commission of the deed. This way seems better than to summarily dispose of every case by the form of a trial by jury, which would effectually prevent the admission of any new evidence after the prisoner had once been acquitted.

DR. C. P. PUTNAM presented the notes of

A CASE OF HODGKINS' DISEASE

recently under his care. The patient was about 30 years old; lawyer. He was unusually muscular, and could paddle a canoe for twenty miles without difficulty. He had had no illnesses of any importance hitherto, except eczema, from which he had suffered throughout his whole childhood, and which had been finally cured at Hebra's Hospital, in Vienna. The only remains were an irritability of the scalp and face, and he was very little disturbed by this. He first came on January 11, 1886, with one enlarged gland under the occiput, and one under the left jaw. These he had noticed about the first of January; at any rate, he was sure that, on Christmas day, he was perfectly well. Iodine was applied to these enlarged glands, and in a week they were smaller. But meanwhile, others had appeared in the same neighborhood, which, in their turn, were treated with tincture of iodine. Ten days later he returned, with the second set of glands also smaller, but with a larger crop in various places in the neck, and also in front of the ear. Then it was found that the axillary and inguinal glands were enlarged and hard. Iodide of potassium had been given, five grains, increasing to ten, three times a day. During the next two weeks he was very much better, and considered that he was getting well. All the glands diminished in size. Meanwhile, however, the whole neck had been growing gradually, but perceptibly larger, so that his collar could not be buttoned. About the middle of February this apparent improvement ceased. The glands began to enlarge again, and the skin became more red and tender. This time, a slight enlargement of the spleen and liver, and general fulness of the abdomen, was found. Arsenic was substituted for iodide of potassium, and with apparent good effect. He again seemed to improve, and was satisfied with his condition; voice husky. In March, however, he complained of want of appetite, and difficulty of retaining food; had to keep a pail near him, as he would vomit suddenly and violently. Was weak; lay on the lounge much of the time; ceased to take an interest in books, although he was an active and intelligent reader. Up to this time the pulse had been normal or slightly accelerated, and there was no rise of temperature. The vomiting was supposed, by the patient, to be caused by the arsenic, which was omitted, given again, and again omitted.

About March 18th he began to lose strength rapidly; lay on the lounge all day too ill to talk, taking little food and vomiting frequently, and yet feeling hungry from time to time. Became less inclined to get up, and from about the 20th kept his bed. His mind became less and less interested in his surroundings and occasionally it would wander. On one occasion he had a hæmorrhage from the bowels which was, however, easily stopped. During this period the action of the heart became more rapid, varying from 100 to 120. Respiration was superficial but labored. He died on the 29th, one month and eighteen days after I first saw him, and almost exactly three months from the time when he noticed the first symptoms. Autopsy by Dr. Gannett.

DR. GANNETT described the appearances found at the autopsy, made March 29, 1886. The front and lateral regions of the neck were occupied by numerous packets of gray, rounded nodules, varying in size from a filbert meat to a walnut; showing on section a homogeneous, and a somewhat translucent appearance, like that of a lymph-gland. Similar nodules were found in the mediastinum and about the roots of the bronchi. The spleen was much enlarged, and contained numerous secondary nodules of lymph-sarcoma. The kidneys and liver showed the presence of very numerous secondary nodules. In the mucosa of the stomach and intestine were numerous, elevated nodules, varying in diameter from one or two centimeters, with depressed centres. Microscopically these showed the structure of a lymphoma.

Dr. Gannett stated that when he made the autopsy he was so struck with the similarity of the course of this case to the acute infectious diseases, the severe symptoms having lasted only three weeks, that he placed at once portions of the new growth in alcohol for examination for micro-organisms. Thin sections, made after hardening, of the gastric and intestinal nodules, stained with methyl-blue and examined with a Zeiss 1-12, showed the presence of well-marked micrococci, in colonies, in the new growing tissue, and no other micro organisms. Of course, such a result does not prove that the micrococci found were the specific cause of the disease; since to prove this, isolation, pure cultivation and successful innoculation experiments are necessary; but it may serve as a finger point to call attention to the possibility of lympho sarcoma being an infective disease, and to suggest the advisability of further investigation in regard to this point.

Dr. T. A. DeBlois exhibited a

NEW FORM OF PHYSICIAN'S HANDBAG,

which he had recently had made. It consists of an ordinary leather bag, of medium size, but is about one-third deeper than the ordinary bags. At one end of the bag is an opening near the bottom, which can be closed by a flap which buckles tightly. This opening displays the end of an air-condenser, with two cocks, and a pressure-gauge. In the bag can be carried a small pump, by which the air can be forced into the condenser. In the space of two minutes Dr. DeBlois was able to obtain a pressure of thirty-five pounds to the inch without great exertion. The apparatus is then ready for use as a spray for the throat, the use of the Evans' inhaler, or for any other purpose to which this treatment is applicable. The bag is sufficiently capacious to accommodate all the articles usually required. The weight is not materially increased by the addition of the condenser, and the whole apparatus is not too heavy to be easily taken in the hand when walking. It is manufactured by Messrs. Codman & Shurtleff.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Cæsarean Section—Craniotomy—Laparo-Elytrotomy.

At a recent meeting of the New York County Medical Association Dr. Lusk reported a case of Cæsarean section, operated on by Sänger's method. The case shows the importance of operating early in labor, of proceeding with deliberation, and of using strict antisepsis, as well as the advantages of constricting the uterus with a rubber ligature to prevent hæmorrhage during the incision of the uterus, extraction of the child, and suturing of the uterine wound. The patient was 24 years old, a native of Ireland. On March 21 she was admitted to Dr. Lusk's service at Bellevue Hospital, on account of deformity of the pelvis resulting from hip disease when a child. When 11 years old she was treated for this at a Dublin hospital, and discharged cured; but during her pregnancy she noticed some suppurative discharge from the old sinus which had formed at this time. Dr. Lusk made an examination on March 22, and to his surprise he found that labor was already commencing. The pubis was a Næglé oblique, and its diameters much contracted. After consultation with Dr. Isaac E. Taylor and Dr. H. J. Garrigues, he decided to perform Cæsarean section. With the pubic diameters in this case he thought the danger from craniotomy would be actually greater than that from Cæsarean section, provided the latter were performed early enough. As the patient was already in labor, he determined to operate at once. Both the private pavilions at Bellevue being occupied, the operation was done in one of the hospital wards.

The abdominal cavity having been opened by a median incision, the uterus was turned back over the abdomen, as were also the intestines, which were held out of the way by means of towels. A rubber tube was then placed around the uterus, and an incision two inches long made in its lower segment; the opening was afterwards increased to five inches by means of scissors. Owing to the pressure of the elastic ligature, the incision was almost entirely bloodless. The child was found with the head presenting in the L. O. A., and when extracted was in a cyanotic condition from the pressure exerted by the constricting rubber; but it was successfully resuscitated. The placenta and membranes were then readily detached by the finger from the uterine walls. In closing the wound thirty-four carbolized silk sutures were used, sixteen deep, eighteen superficial. In the deep sutures the mucous membrane of the uterus was avoided. When the rubber band was removed blood slowly returned to the pallid organ, which first became of a delicate rosy hue, and finally of a deep purple. A slight oozing was then observed at one point, and after it had ceased the uterus was returned to the abdominal cavity; a drainage-tube being inserted behind it. Silver wire sutures were put into the abdominal wound, and the patient was in excellent condition at the end of the operation, which lasted 1.15 hour.

For 3 days the temperature never rose as high as 100°; then there was a little tympanites, and it went up above 101°, but a Seidlitz powder had the effect of promptly reducing it. On the 5th day the drainage-tube was removed. Immediately after the operation the discharge from it was stained with blood, but it soon became colorless. Dr. Lusk thought that the tube was not really needed in this case at all; but at the same time there was a certain feeling of security in having it. On the 6th day there was some oozing from the orifice left by it. At the end of a week the abdominal suture was removed, and at this time the temperature would usually go up to about 100.5° in the evening, falling again by morning. On the 9th day some fluctuation was discovered at one point in the line of the abdominal wound, and a little pus was evacuated; after which the temperature became nearly normal. At the end of two weeks, however, the temperature suddenly rose to nearly 103°. No trouble whatever could be detected about the abdomen, and as the patient complained of pain in the region of the right hip, an examination revealed an accumulation of pus in the site of the old sinuses. After that time the patient continued in excellent condition, and the child was in equally good condition.

In the discussion on Dr. Lusk's case Dr. Sylva, late House Surgeon in Bellevue Hospital, who had had charge of it, said that altogether the patient did better than any other case of laparotomy that he had the opportunity of observing during his service at the hospital. As regards the result of Cæsarean section when the operation was unduly delayed, he referred to the nineteen cases in dwarfs which Dr. Robert Harris, of Philadelphia, quoted in tabulating one hundred operations in 1878, and in which only one mother and five children were saved. In all these cases the operation was only undertaken as a last resort, when the patient was utterly exhausted; and the results afforded ample proof of the importance and desirability of early surgical interference.

In reply to whether it would not have been better in such a case to perform Porro's or Tait's operation, in order to prevent the woman's becoming pregnant again, Dr. Lusk said that statistics showed that with the Sänger operation (more or less modified from the original procedure) there are over 70 per cent. of recoveries, but only 40 per cent. in Porro's operation. In regard to Tait's operation, the additional risk to which it subjected the patient was by no means advisable; the extremely vascular condition of the parts constituting a serious objection to its performance.

Dr. C. S. Wood said that in the course of his experience he had had to perform craniotomy three times, and he thought that this class of cases was as disagreeable and repulsive as one could by any chance meet with. If, therefore, by this operation it was possible to save more mothers than by craniotomy, it would be a great boon. Unfortunately, however, statistics showed thus far it had saved a much smaller proportion of mothers. In two of the cases of craniotomy that he had met with the mothers recovered, while in the third the result was fatal. Yet in one of the successful cases he labored under great disadvantages from the fact that, not expecting to be called upon to perform craniotomy, he was unprovided with the proper instruments, and was so situated that none could be obtained on short notice. Under these circumstances he resorted to the device of manufacturing such rough instruments as he could from some shoemaker's tools; and he thought the case was of interest as showing what sometimes might be accomplished by very simple means in an emergency. He said he was one of those who believed that the mother should always be saved at all hazards, whether the child was sacrificed or not; and as long as it could be shown that more mothers' lives were lost by the Cæsarean section than by craniotomy, he thought the latter should be given the preference.

Dr. Lusk said that in the old Cæsarean section, the mortality was without doubt very large. In most of the cases it was resorted to only when the woman was in a dying condition, and after all other methods of delivery, craniotomy included, had been tried in vain. When it was remembered, too, that a rough and careless way of operating had also been the rule, it was hardly to be wondered at that the patients died, and that such cases militated strongly against the value of the procedure. But, even under all these adverse circumstances, a few cases had recovered. At the present time it is getting to be understood that the operation should be performed, whenever this was possible, under more favorable conditions, and in the same careful way as any other surgical procedure involving the abdominal cavity. The operator should take sufficient time to make out the pelvic diameters, and consider fully the risks to be encountered in performing craniotomy. If, having done this, he decided that the Cæsarean section offered the best chance of success, he should make his preparations as deliberately as possible and perform the operation by strict antiseptic methods. In this way the results are infinitely more satisfactory than in the old operation, as shown by the cases of Leopold, who has operated ten times, with only one death, and who states that, in the light of his later experiences, he believes that he could now have saved this case also. Very few obstetric surgeons, certainly, could show a result of 90 per cent. of recoveries in their cases of craniotomy. Within the last eighteen months Harris has collected 40 cases of Cæsarean section, with 73 per cent. of recoveries; while the best results of craniotomy in these difficult cases show only 60 per cent. of recoveries. Other operators than Leopold have reported 5 or 6 consecutive cases without a death. One great reason of the gratifying success of the modern operation is the use of the rubber ligature, which, by effectually preventing hæmorrhage from the severed uterine structures, enables the surgeon to remove the contents of the uterus in a very deliberate and careful manner, and to bring the edges of the wound together with the greatest accuracy.

In reply to a question from Dr. Gouley, in regard to his opinion of the operation of laparo-elytrotomy in these cases, Dr. Lusk said that this procedure was particularly adapted to a special class of cases, viz.: when the head was arrested at the brim and the cervix was already dilated, or in a dilatable condition. If, however, we were obliged to pass the forceps through an undilated cervix, it was a very serious operation. In case, therefore, we desired to operate early, we have to do it at a time when the conditions favorable to laparo-elytrotomy do not exist. Of the 12 cases of this operation which have been reported, 6 recovered, and 6 died; the latter being cases in which success was impossible from the existing conditions.

P. B. P.

BERGEON'S METHOD OF TREATING PHTHISIS.

Dear Sir:—My object in addressing you is not to present the results of personal experience with M. Bergeon's method of treating phthisis, nor to make original suggestions for its improvement. I desire only to state a few points concerning the preparation and amount of carbonic acid to be injected, as well as the proportion of, and best mode of obtaining the sulphuretted hydrogen. These have been gleaned from *Les Nouveau Remèdes*, November 24, 1886.

But before considering them, I should like to mention the points wherein, as it seems to me, we American physicians have been at fault. The attention of the profession in Chicago was first directed to Bergeon's method by Dr Henry Bennet's paper in the *British Medical Journal*, December 6, 1886, and our apparatus has been constructed after that of M. Morel which Bennet described. We have prepared our gas in the way he suggested, and, not being able to obtain Eau Bonnes, we did the next best thing, employed native sulphur waters, chiefly that from Ypsilanti. Or, if not natural mineral waters, we have followed the lead of Philadelphia men, and used 5 grains each of sulphide and chloride of sodium in 20 ounces of water. Furthermore, not satisfied with employing the apparatus in strict accord with Bergeon's principles, as enunciated by Bennet, some of us have been in the habit of generating enough carbonic acid to suffice for several treatments, instead

of filling the gas bag afresh on each occasion. When gas is left in the rubber bag, atmospheric air enters by endosmosis and is liable to give the patients colic, an objection to the treatments of which I have heard physicians complain. Furthermore, the quantity of gas administered has not been exactly known. To be sure, it is claimed that one can ascertain this by measuring the capacity of the pressure bulb. This, I think, is an error, since when the bag is full and the gas under high pressure, it will bubble through the bulb in a steady stream. Also, as the gas grows less in the reservoir, the amount ejected by each pressure of the bulb becomes less than at first. Hence, the claim appears to me just, that for the most part, physicians have not known accurately how much gas they have injected.

Omitting for the present the fact that sulphuric acid is used in the generation of the carbonic acid, there is the source and percentage of the sulphuretted hydrogen to be considered. The great demand for Ypsilanti water reveals that in most instances it is the mineral water employed hereabouts. According to the official analysis of this water, it contains 21.0786 cubic inches of free hydrosulphuric acid to the gallon. A trifling computation shows that 1 litre of the fresh water holds about 91 cc. of free sulphuretted hydrogen, and a ½ litre, therefore, in the neighborhood of 45 cc. But does anybody imagine that the bottled water sold to us here at such exorbitant prices holds anything like as much free hydrosulphuric acid as that freshly drawn from the spring? The water is brought here in barrels and then bottled. Under such circumstances it has lost probably more than half of its free gas. But granting that it still contains the half of its original charge, a pint of the water (a pint being little less than ½ litre) would hold less than 23 cc. of sulphuretted hydrogen. Now, if 4 litres of carbonic acid be passed through half a litre of the water, it would therefore become charged with less than 1 per cent., even should the CO_2 cause the sulphides contained in the water to give up still more sulphuretted hydrogen. As will be seen later, this proportion of the two gases is too little to produce the results obtained in France. Yet, if there be a larger percentage of sulphuretted hydrogen in Ypsilanti water than I have supposed, there is still the objection that its *actual amount* is unknown. Finally, this water is so dear, and the outrageous advertisement of it in the *Chicago Times*, May 8, was of such a nature, as to lead to the inference that the dealers in the water are disposed to fatten off of the necessities of suffering humanity. Therefore, led by the considerations just stated, I have ventured to place before the readers of THE JOURNAL the suggestions offered in the French article mentioned above.

1. The gas-reservoir should be emptied of all air before being filled with carbonic acid. 2. The CO_2 should be generated by the action of a vegetable acid, preferably tartaric acid, upon sodium bicarbonate, in proportion of 16 grammes of the former to 20 of the latter. 3. The quantity of gas injected at a time should not exceed 4 litres, in some cases only 1 litre, according to the requirements of the patient. 4. An artificial solution of sulphuretted hydrogen is fully as good as, if not superior to a natural sulphur water. 5. This water should consist of a solution of sodium sulphide of such strength as will furnish a definite quantity of hydrosulphuric acid. 6. The rectal nozzle should not be introduced until the medicated gas has begun to flow out of its extremity, thus precluding the entrance of atmospheric air.

Tartaric acid is preferred to a mineral acid on the ground that the latter generates vapors which may render the CO_2 irritating to sensitive, ulcerated bowels. Personally, I have found my CO_2 would make my nostrils sting even after it had been passed through the mineral water. Hence, although tartaric acid is dear, I shall advocate its use. A sufficient quantity to charge the gas bag for a single treatment would cost about five cents.

Eau Challes is stated to be the strongest sulphur water in France, containing an amount of sulphides capable of evolving in the presence of tartaric acid 150 cc. of sulphuretted hydrogen to the litre of water. In order, therefore, to produce an artificial water of equal strength, the two following solutions are used at Cochin Hospital, Paris: No. 1, of pure sulphide of sodium, 10 grammes; of distilled water, 100 cc. Solution No. 2, of tartaric acid, 25 grammes; salicylic acid, 1 gramme; distilled water, 100 cc. The sodium sulphide must be *pure* and *fresh*. The salicylic acid does not all dissolve, but is added to prevent the development of fungi. When 1 cc. of the second solution is added to 1 cc. of the first, exactly 10 cc. of pure sulphuretted hydrogen are generated. Therefore, if 15 cc. of each solution are poured into a litre of plain water, 150 cc. of hydro-sulphuric acid are set free, and an artificial sulphur water of equivalent strength to Eau Challes is produced. Now, elsewhere in the article referred to, it is stated that 250 cc. of the sulphur water are put into the wash-bottle through which the CO_2 is to pass. This amount, one-fourth of a litre of water containing 150 cc. of free sulphuretted hydrogen, would yield to 4 litres of CO_2 sent through it, one-fourth of 150 cc., or about 40 cc. of the medicament; and this is 1 per cent.

The question may here be asked: Does the carbonic acid absorb all of the free sulphuretted hydrogen in the water? But, whether it does or not, this appears to be the proportion of free hydrosulphuric acid held in the water employed at the Cochin Hospital. In order to obtain the required amount, then, for a single treatment, one should proceed as follows: After having filled the gas bag with 4 litres of CO_2, pour into the wash-bottle 250 cc. of warm water, and then add separately 4 cc. of each of the solutions given above. You will then pass 4,000 cc. of carbonic acid through water holding in solution 40 cc. of sulphuretted hydrogen, which is 1 per cent. of the latter.

Here, then, is something approaching accuracy; and if these directions, as furnished by *Les Nouveau Remèdes*, are followed, it is to be hoped we shall soon have more satisfactory results to report in this country. As yet I have not had time to report the effect of treatment carried out according to these suggestions. In closing let me thank H. C. Wood's con-

tribution to the *Therapeutic Gazette* for having put me on the track of the article in the French journal, although it would seem that I have drawn widely different conclusions from its statements than those given by him. In another letter I may describe a simple apparatus by which the quantity of carbonic acid injected may be accurately measured. Very respectfully, ROBERT H. BABCOCK, M.D.

70 Monroe St., Chicago, May 14, 1887.

BOOK REVIEWS.

THE SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, and one of the Obstetricians to the Philadelphia Hospital. Octavo, pp. xv, 701. With illustrations. Philadelphia: Lea Brothers & Co., 1886. Chicago: A. C. McClurg & Co.

Few books issued from the American press during the year, have been awaited with the same degree of expectancy as "Parvin's Obstetrics"—a fact not at all remarkable, in view of the author's well-earned reputation and great influence as practitioner, teacher, and writer. Then, too, the subject is one of intense interest to every member of the profession. Accordingly, we turn over the pages with unusual attention, and venture with diffidence to express a brief opinion as to the value of a master's work.

"The first necessity of a book," says Edward E. Hale, "is that it shall be entertaining. If, therefore, the book do not interest me, I consider that I have, *prima facie*, a right to put it on one side, before it puts me to sleep." Parvin's book is entertaining. No one can go to sleep over it. From introduction to end it chains attention. In the choice of words, their number and arrangement, the acute student of verbal criticism is at once apparent. Clearness, force and elegance are the essential qualities of his style. Passages of unusual beauty are constantly recurring, *vide* "Diagnosis of Pregnancy," p. 178; "Management of Pregnancy," p. 210; "Lactation," p. 539; "Induction of Abortion," p. 601; "Embryotomy," p. 650. Traces of a refined and delicate sense of humor pervade the book, but the dignity of the subject is never lowered by coarse or unseemly jests. It is not a little annoying, however, to note numerous and important typographical errors in a piece of literary work of such a high order. Ben Jonson wrote *Bartholomew Fair*, not "Vanity Fair," *vide* p. 156. Then, Littlewit's[1] words were, "O yes, Win: you may long to see, as well as to taste, Win: how did the pothecary's wife, Win, that longed to see the anatomy, Win? or the lady, Win, that desired to spit in the great lawyer's mouth, after an eloquent pleading?" The elevated tone of discourse becomes at times a trifle more ecclesiastical than is consonant with the canons of good taste or the requirements of a scientific treatise. Grammatical lapses, although infrequent, do occur. "Case where," instead of "Case in which," disfigures the appearance of many an otherwise fair sentence, pp. 178, 441. On page 284, the author states that hydramnios, or hydramnion, is an incorrect term, polyhydramnios being preferable. He persists, however, in the use of the alleged incorrect term, pp. 284, 384.

Let us pass on to the matter of the book. Parvin has attempted "to present the most recent information relating to obstetrics, at the same time not overlooking important truths established by past experience"—truly a difficult task, never, up to the present time, adequately performed by any American or English writer. In the execution of this object, he has drawn too exclusively from French literature, while he has neglected, to an utterly inexcusable degree, the teachings of the Germans in general, and of the Vienna School, in particular. The Vienna School is very generally and very justly regarded as a sort of ultimate court of appeal, in all matters pertaining to the science and art of midwifery, and its teachings are in a high sense mandatory.

This defect constitutes an essential weakness that cannot be remedied, the severest criticism that can be passed upon the book. It may be said in palliation of this fault, that most Americans are familiar with German modes of thought, while they are comparatively ignorant of French notions. In the utilization of the work of other men. Parvin thoroughly maintains his own individuality. He never sinks to plagiarism,—by no means a negative virtue. His book can never be mistaken for a translation of Spiegelberg's magnificent classic. The results of his own observation and experience are recorded with becoming modesty.

Let us examine the book in detail. Parvin still insists that the sacro-iliac and pubic articulation are symphyses, and not true joints (p. 25), the results of the investigations of Luschka, Strauss, Müller, Budin, to the contrary notwithstanding. The important subject of velamental insertion of the cord (pp. 131, 132) is disposed of in twenty-seven words—conveying an erroneous notion of the condition—and is illustrated by a cut of a "battledore" placenta! He does not mention the important function of the mammary gland, *in utero*, in the production of the *vernix caseosa*,—an activity that explains in part the "painful swelling of the breasts" with the secretion of colostrum in the new-born, male and female (pp. 88, 545). The chapter on the behaviour of the *cervix uteri* during pregnancy and labor—a subject of great theoretical and practical interest—is totally inadequate. Hegar's so-called new sign of pregnancy is worthy of more distinct recognition than the scant inaccurate allusion on page 184. Rasch's[2] sign of uterine fluctuation, detectible through the anterior uterine wall as early as the eighth week, is not mentioned. Mediate auscultation (p. 189) with a stethoscope "not less than six inches, about fifteen centimetres, long," is urged for the reason, among others, that "the direct application of the ear to the abdomen is indelicate!" A remark not unlike that of the Philadelphia lecturer, who said that the man

[1] William Gifford: The Works of Ben Jonson. London, 1879, p. 325.

[2] British Medical Journal, Vol. ii, 1873.

was lacking in fine feeling, who would practice immediate auscultation, and take advantage of a poor woman, when the cry of shame was hidden by the cry of pain. Mediate auscultation, unless the bell of the instrument be very large, is practically useless in the recognition of the sounds of the fœtal heart, as a very limited experience will convince the most casual observer.

On the treatment of *placenta prævia*, Parvin remarks: "If loss of blood be slight, and especially if the fœtus be not yet viable, the expectant plan is indicated" (p. 319). Experience teaches that there is no expectant treatment of placenta prævia, and that the evacuation of the uterine contents is urgently indicated as soon as the condition is discovered. As a matter of fact, however, unavoidable hæmorrhage seldom occurs before the latter part of the second half of pregnancy, and the induction of premature labor—not of abortion—comes up for consideration. The cotton tampon, as a means of checking hæmorrhage until the os is sufficiently dilated to admit of version or the forceps, is discussed at length, but no allusion is made to the far simpler, safer, and more effective method of colpeurysis, proposed and practiced by Carl Braun. Then in the employment of the cotton tampon, there is no necessity for stuffing the vagina to its maximum capacity, as illustrated in the cut on page 322. The Vienna method of perineal protection—effective in the large majority of cases—is inadequately described on page 411. The balloon-catheter of Gustav Braun and Hüter is not mentioned in the paragraph on "Insufflation through a Tube passed into the Larynx" (p. 420). The prophylaxis of puerperal fever is disposed of with a single page (593) of vague generalizations, a subject, in the light of the discovery of Semmelweis, that justifies, demands the use of dogmatic aphorisms.

The weakest part of the book is the chapter on "Obstetric Operations" (p. 601). Wright's method of version is not at all identical with Braxton Hicks' method, as intimated on page 607. We look in vain for a discussion of the "conditions" and "indications" for version—an unpardonable omission. The weight of professional opinion is so opposed to the application of the forceps to the pelvis, that the description of the mode of application, on page 646, is unnecessary. Cephalotripsis is practically an obsolete operation, yet it is fully described and well illustrated. Cuts of old-fashioned instruments mar the pages devoted to craniotomy. Levret's murderous perforator and Meigs' craniotomy forceps seem in the mind of the author to be adequate substitutes for Carl Braun's curved trepan and cranioclast! The Smellie-Veit method of "extraction" and "manual aid" in pelvic presentations is not mentioned. In speaking of "Decollation or Decapitation" (p. 659), Parvin says: "This operation can be very quickly done by means of a piece of strong twine, which is thrown around the neck, then used as a saw, to-and-fro movements given it, burying it deeper in the cervical tissues, until finally the section is completed." This sentence really requires no comment. It is utterly absurd. It presents *prima facie* evidence that the writer himself has never performed the operation, nor seen it performed by others. It would also seem to indicate that he had read very little on this topic,—aside from Playfair's Treatise, Fifth Edition, 1884, vol, ii, p. 224. It is unnecessary to add that decapitation is justly regarded by authorities on operative obstetrics as the most difficult, and one of the most dangerous procedures, in this special department of surgery. These are only a few of the sins of omission and commission, but they are sufficiently grave in nature to imperatively demand that the chapter be re-written.

Viewed as a whole, we regard "Parvin's Obstetrics" as the best exposition of the subject, issued from the American press, up to the present time; and we know of no book, equal to it in all respects, that has emanated from an English source. It must be admitted, however, that the work is very faulty. The author has not given us that which his distinguished ability entitled us to expect. W. W. J.

ASSOCIATION ITEMS.

AMERICAN MEDICAL ASSOCIATION.

The Thirty-eighth Annual Session will be held in Chicago, Ill., commencing on Tuesday, June 7, at 11 A.M., in Central Music Hall, corner of State and Randolph streets, and will continue four days. Good rooms for the several Sections will be provided as near the hall for general meetings as possible. Registration books will be open in Central Music Hall on Monday, the day preceding the meeting, for those who wish to register early.

In addition to the list of papers already published, the following are promised:

Section of Diseases of Children.

C. E. Briggs, M.D., St. Louis, Mo., "On Spasm of the Larynx and Œsophagus."

L. Duncan Bulkley, M.D., New York, "On Infantile Feeding, Especially with Reference to Subjects with Infantile Eczema."

Section on Practice of Medicine, Materia Medica and Physiology.

L. Duncan Bulkley, M.D., New York, "On the Treatment of Felon Without Incision."

Byron H. Daggett, M.D., Buffalo, N. Y., "On a Convenient and Practical Method of Administering Bergeon's Treatment."

Section on Obstetrics and Diseases of Women.

Henry O. Marcy, M.D., Boston, Mass., "Cystitis in the Female."

W. H. Wathen, M.D., Louisville, Ky., "Rupture of the Uterus."

Section on Surgery and Anatomy.

Alex. Y. P. Garnett, M.D., Washington, D. C., on "The Surgical Treatment of Suppurative Pleuritis in Children."

Robert Newman, M.D., New York, "Synopsis of the Second Hundred Cases of Stricture of the Urethra Treated by Electrolysis."

E. A. Wood, M.D., Pittsburgh, Pa., "A Deformity and Disability following a Form of Injury to the Ankle Joint."

J. McFarland Gaston, M.D., Atlanta, Ga., "On the Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis."

Joseph Jones, M.D., New Orleans, La., "A New Method of Testing the Relative Value of Certain Antiseptics, Disinfectants and Germicides Employed Internally and Externally in the treatment of Wounds and Syphilis."

S. T. Armstrong, M.D., Memphis, Tenn., "Trephining in a Case of Intermingeal Hæmaturia with Hemiplegia."

A. H. Wilson, M.D., Boston, Mass., "The Prostate Gland; a Review of its Anatomy, Pathology and Treatment."

Section on Ophthalmology, Otology and Laryngology.

J. J. Chisolm, M.D., Baltimore, Md., "The Results of a Year's Experience in the Abandonment of Eye Bandage."

Wm. Porter, M.D., St. Louis, Mo., subject not announced.

W. T. Montgomery, M.D., Chicago, Ill., "After-Treatment of Cataract Extraction."

Geo. E. Frothingham, M.D., Ann Arbor, Mich., "A Case of Epilepsy Apparently Cured by Correcting Hypermetropia." "Two Cases of Tumor of the Optic Nerve."

Section on Medical Jurisprudence.

Wm. C. Wile, M.D., Philadelphia, Pa., "On Expert Testimony."

FACTS REGARDING RAILROAD RATES.

[The following letter sufficiently explains itself, which we cheerfully publish, as under.—ED.]

TO THE EDITOR:

My Dear Sir:—Kindly afford space in this week's issue of THE JOURNAL, and until June 4, please, by publishing the subjoined valuable information, as to those who anticipate attending the coming meeting of the American Medical Association, it will be of much practical interest—as well also, that it will be a REPLY in full to inquiries of many physicians, whose valued favors have unavoidably remained unanswered, simply because a number of our good friends have written substantially in the same manner from various parts of the country, desiring information regarding railroad rates, etc. And by your publishing a statement of the facts herein contained, it will be accepted by the Committee on Transportation as a favor personally to each of its members, and at the same time it will also be an answer to the many questions thus far received by this Committee, and which we have not had the time to respond to individually, as well as a reply to those who contemplate writing to the Committee upon the points enumerated above, and greatly oblige, Yours truly,

LISTON H. MONTGOMERY, M.D.,
Chairman Com. on Transportation.

189 Randolph St., Chicago, May 18, 1887.

Upon all railroads within territory bounded as follows:

On the East, by the western termini of the Trunk Lines, which termini are: Toronto, Canada; Suspension Bridge, Niagara Falls, Tonawanda, Black Rock, Buffalo, East Buffalo, Buffalo Junction, Dunkirk, and Salamanca, N. Y.; Pittsburgh and Allegheny, Pa.; Bellaire, Ohio; Wheeling and Parkersburg, W. Va.; and Ashland, Ky.

On the North, by the line of the Grand Trunk Railway from Toronto to Port Huron, including the points thereon, thence via the Great Lakes to Chicago.

On the West, via the west line of Cook Co. Ill. (the county in which Chicago is located) to, and via the Illinois and Mississippi Rivers to Cairo, including St. Louis, and all other points on said lines and rivers, the extensions of the Wabash, and Toledo, Peoria & Western Railways westward from said boundary—as well as *on the South* by the Ohio River.

Delegates, members, and their families are instructed that at time they purchase their tickets going to Chicago, the Agent will furnish you with a certificate or receipt at time of said purchase, stating that you have paid full fare to place of meeting. This certificate or receipt is positively necessary for you to get from the ticket agent, which will afterwards require to be endorsed by the Chairman of the Committee on Transportation at Chicago, stating that you have been in attendance at the meeting. This will enable you to get your ticket for the return journey at *One-Third the Lowest Regular Limited Fare.*

In case there is no limited fare to the point desired, one-third of the regular unlimited fare will be used.

Tickets for return journey are limited to continuous passage, and should be used on first train after they are purchased, although the certificates will be good *three days* after the Association adjourns. And no certificate or receipt will be honored at Chicago which was procured from agent at starting-point more than *three* days prior to date of meeting. Thus it will be seen the certificates are good until used within the above described territory, ten days, and include all those lines that have not already been published in former issues of THE JOURNAL.

For delegates, members and their families who reside at points in Trunk Line territory (study the list of roads embraced therein) blank certificates will be furnished you by the Chairman of the Committee on Transportation at Chicago, if in good time you requisition me for the necessary number. This can be done on, and after May 24. These blank certificates will be furnished parties from points east of Niagara Falls, Buffalo, Salamanca, Pittsburgh, Petersburg or Wheeling, which will be certified to by the agent at starting-point, stating that you have paid full fare through to Chicago. It is absolutely imperative that certificates for this territory be in the hands of parties at the time of purchasing their "going" tickets, to get the ticket agent's receipt, and will require to be endorsed by the Chairman of the Transportation Committee at the meeting, to enable the holders to get the concession returning, which will be *one-third the lowest regular limited fare.* These certificates are also good three days after the Association adjourns, or ten days altogether.

Regarding the Western Roads, specific knowledge cannot at this time be given as to the plan each of them will pursue. Ticket Agents for the Chicago, Milwaukee & St. Paul Railway will give each person a receipt who has purchased a ticket, stating that full fare has been paid to Chicago. This receipt will be endorsed as described above, thus entitling the holder to return at *one-third the lowest limited fare*, and applies to all parties in attendance at the meeting; in all cases, however, the return rate will be made one-third the regular fare. The Chicago & Alton simply requires for its protection, a certificate as per form prepared by the "Committee," having this matter in charge, properly endorsed at Chicago, to secure the reduced fare of one-third the regular rate, etc., for each person in attendance.

The Illinois Central will also honor tickets in the same manner as will the Chicago & Alton when vouched for in the same manner.

The Chicago, Burlington & Quincy has adopted the same plan as that of the C. M. & St. P. Road.

The Chicago & Northwestern will pursue a similar plan, that of giving to each purchaser a receipt for the amount of full fare, going, as will, doubtless, most of the other lines within the territory leading west, southwest and northwest from Chicago, as far at least as the Mississippi and Missouri rivers. Tickets over the lines west of Chicago will not be honored after June 12. Negotiations are not yet completed, but from present knowledge, the indications are, that the following roads will also give the reduced rate, amounting to a fare and one-third, for the round trip to delegates and their families:

Union Pacific.
Burlington & Missouri River.
Atchison, Topeka & Santa Fé.
Denver & Rio Grande.
Gulf, Colorado & Santa Fé.
Houston & Texas Central.
Texas & Pacific.
Missouri Pacific.
Southern Pacific.

St. Louis, Arkansas & Texas.
St. Louis & San Francisco.
Iron Mountain.
Atlantic & Pacific.
Northern Pacific.
St. Paul, Minneapolis & Manitoba.
St. Paul & Duluth.
As well, too, as the following Steamboat Lines:
Goodrich.
Lake Michigan and Lake Superior.

In all cases, except where stipulated otherwise above, it is advisable that you get from the Ticket Agent at the time you procure your tickets to Chicago, a receipt from Agent, stating that you have paid full fare going, and which must invariably be shown the Chairman of Transportation Committee at place of meeting.

Upon the forty-two Southern Roads enumerated (see list), you are required to procure a certificate, similar to that required of parties who live in territory occupied by the Trunk Lines, viz., by sending to the Chairman of Transportation Committee, at Chicago, for the necessary number, etc., which you can procure on and after **May 24.**

Certificates are good to return on these Southern Lines only, twenty-four hours after adjournment, *i.e.*, good until June 11. And in every instance upon all the roads named, you are required to return the same route as upon going.

It seems as though the above information embraces every possible inquiry that can be propounded, and we trust a largely representative meeting will be held, in which we are joined by the hearty wish and co-operation of the entire profession of Chicago. Further particulars may be obtained by addressing

DR. LISTON H. MONTGOMERY,
Chairman of Committee of Transportation.
Briggs House, No. 189 Randolph St., Chicago.

The roads which will accept return tickets on the certificate plan are:

Baltimore & Ohio (west of the Ohio River).
Buffalo, New York and Philadelphia.
Chicago & Grand Trunk.
Cincinnati, New Orleans & Texas Pacific.
Chicago, Vincennes & Cairo Line.
Chicago & West Michigan.
Chicago, St. Louis & Pittsburgh.
Cincinnati, Hamilton & Dayton.
Cincinnati, Indianapolis, St. Louis & Chicago.
Cincinnati, Washington & Baltimore.
Cleveland, Akron & Columbus.
Cleveland & Marietta.
Cleveland & Pittsburgh.
Cleveland, Columbus, Cincinnati & Indianapolis.
Cleveland, Lorain & Wheeling.
Columbus & Cincinnati Midland.
Columbus, Hocking Valley & Toledo.
Chesapeake & Ohio.
Chicago & Atlantic.
Dayton & Ironton.
Detroit, Lansing & Northern.
Dayton & Union.
Detroit, Grand Haven & Milwaukee.
Evansville & Terre Haute.
Flint & Pere Marquette.
Fort Wayne, Cincinnati & Louisville.
Grand Rapids & Indiana.
Grand Trunk.
Indianapolis & St. Louis.
Indianapolis & Vincennes.
Indianapolis, Bloomington & Western.
Indianapolis, Decatur & Springfield.
Jeffersonville, Madison & Indianapolis.
Kanawa & Ohio.
Lake Erie & Western.
Lake Shore & Michigan Southern.
Lousiville & Nashville.
Louisville, Evansville & St. Louis.
Louisville, New Albany & Chicago.
Michigan Central.
Michigan & Ohio.
New York, Chicago & St. Louis.
New York, Pennsylvania & Ohio.
Niagara Falls Short Line.
Ohio & Mississippi.
Pennsylvania.
Peoria, Decatur & Evansville.
Pittsburgh & Lake Erie.
Pittsburgh & Western.
Pittsburgh, Cincinnati & St. Louis.
Saginaw Valley & St. Louis.
Scioto Valley.
Toledo & Ohio Central.
Toledo, Peoria & Western.
Valley Railway.
Vandalia Line.
Wabash Railway.
Wheeling & Lake Erie.
Baltimore & Ohio (east of Parkersburg, Bellaire & Wheeling.)
Baltimore & Potomac.
Bennington & Rutland.
Boston & Albany (on business between common points in New England and points west of, but not including Albany.)
Boston & Lowell.
Boston, Hoosac Tunnel & Western.
Buffalo, Rochester & Pittsburgh.
Camden & Atlantic.
Central Vermont.
Delaware & Hudson Canal Co.
Delaware, Lackawanna & Western.
Fitchburg.
Lehigh Valley.
New York Central & Hudson River.
New York, Lake Erie & Western.
New York, Ontario & Western.
Norfolk & Western.
Northern Central.
Philadelphia & Erie.
Philadelphia & Reading.
Philadelphia, Wilmington & Baltimore.
Rome, Watertown & Ogdensburg.
Shenandoah Valley.
Troy & Boston.
West Jersey.
West Shore.

The following named lines offer one and one-third fare for round trip:

Burlington, Cedar Rapids & Northern Railway.
Central Iowa Railway.
Chicago & Alton Railroad.
Chicago & Northwestern Railway.
Chicago, Burlington & Northern Railway.
Chicago, Burlington & Quincy Railroad.
Chicago, Milwaukee & St. Paul Railway.
Chicago, Rock Island & Pacific Railway.
Chicago, St. Paul, Minneapolis & Omaha Railway.
Green Bay, Winona & St. Paul Railroad.
Hannibal & St. Joseph Railroad.
Illinois Central Railroad.
Kansas City, St. Joseph & Council Bluffs Railroad.
Milwaukee & Northern Railroad.
Milwaukee, Lake Shore & Western Railway.
Minneapolis & St. Louis Railway.
Minnesota & Northwestern Railroad.
Missouri Pacific Railway.
Rock Island & Peoria Railway.
Sioux City & Pacific Railroad.
Wabash Western Railway.
Wisconsin Central Lines.

A list of forty-two Southern roads which will accept return tickets issued under the certificate plan.

Alabama Great Southern Railroad.
Atlanta & West Point.
Brunswick & Western,
Central Railroad of Georgia.
Central Railroad of South Carolina.
Charleston & Savannah.
Cheraw & Darlington.
Cheraw & Salisbury.
Cincinnati, New Orleans & Texas Pacific.
East Tennessee, Virginia & Georgia.
Georgia.

Georgia Pacific.
Illinois Central (south of Ohio River).
Jacksonville, Tampa & Key West.
Louisville & Nashville (south of Ohio River).
Louisville, New Orleans & Texas.
Memphis & Charleston.
Mississippi & Tennessee.
Mobile & Ohio (south of Ohio River)
Nashville, Chattanooga & St. Louis.
New Orleans & North-Eastern.
Norfolk & Western.
North-Eastern Railroad of Georgia.
North-Eastern (of South Carolina).
Pennsylvania (south of Washington).
Petersburg.
Port Royal & Augusta.
Raleigh & Gaston.
Richmond & Alleghany.
Richmond & Danville, and leased lines.
Richmond, Fredricksburg & Potomac.
Richmond & Petersburg.
Rome.
Savannah, Florida & Western.
Seaboard & Roanoke.
Shenandoah Valley (south of Potomac River.)
South Carolina.
Vicksburg & Meridian.
Western & Atlantic.
Western Railway of Alabama.
Wilmington, Columbia & Augusta.
Wilmington & Weldon.

MISCELLANEOUS.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION will hold its ninth annual session in the Hall of the New York Academy of Medicine on May 26, 27 and 28, under the Presidency of Dr. E. Fletcher Ingals, of Chicago.

DR. SELIM PACHA.—From the *British Medical Journal* we learn that the Khedive has nominated Dr. Selim Pacha to represent Egyptian Medicine in the approaching International Medical Congress.

DR. ROBERT BARNES, of London, has been elected an Honorary Fellow of the Chicago Gynæcological Society.

THE ASSOCIATION OF MEDICAL EDITORS will meet at the Palmer House, Chicago, at 8 P.M., on the Monday evening preceding the meeting of the American Medical Association. The President, Dr. Shoemaker, will deliver an address on "Some of the Present Abuses of Medical Literature." This organization is permanent, and largely social, and it is desired that medical editors who can attend the meeting will do so. Those who expect to be present should send their names as soon as possible to Dr. Wm. Porter, 3137 Lucas Ave., St. Louis. Dr. J. L. Gray, 70 Monroe St., Chicago, is Chairman of the Committee of Arrangements.

KENTUCKY STATE MEDICAL SOCIETY.—The next annual meeting of this Society will be held in Paducah, on the 15th, 16th and 17th of June, 1887. Dr. W. N. Wathen, of Louisville, is President, and Dr. Steele Bailey, of Stanford, Secretary. A full attendance is expected.

THE CONGRESS AND TRANS-ATLANTIC STEAMSHIP FARES.—The London *Lancet*, of May 7, 1887, says: "We understand that Messrs. Henderson Bros., managing owners of the Anchor Line of Steamships, from Glasgow to New York, have decided to offer to members of the medical profession desirous of attending the International Medical Congress to assemble at Washington, in September next, return tickets to New York for £20, giving the best accommodation at this low rate."

ENGLISH SOCIETY FOR THE STUDY AND CURE OF INEBRIETY.—The Council of this Society have called an International Congress, to be held in Westminster Hall, London, July 5 and 6, 1887, for the purpose of discussing the problems of inebriety medically. Papers have been promised from a number of eminent men in different countries, and the meeting will doubtless be a profitable and interesting one, under the Presidency of Norman Kerr, M.D., F.L.S., London. T. D. Crothers, M.D., of Hartford, Conn., is the American member of the Committee of Arrangements.

NEW YORK STATE MEDICAL ASSOCIATION.—The Fifth District Branch will hold its third annual meeting in Brooklyn, at Remsen Hall, 190 Remsen St., on Tuesday, May 24, 1887. An interesting meeting is expected.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 7, 1887, TO MAY 13, 1887.

Lieut.-Col. C. T. Alexander, Surgeon, granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887.

Capt. P. F. Harvey, Asst. Surgeon, granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

Capt. Victor Biart, Asst. Surgeon, ordered for examination by Army Retiring Board at Ft. Leavenworth, Kans. S. O. 107, A. G. O., May 10, 1887.

Capt. F. W. Ellery, Asst. Surgeon, ordered for examination by Army Retiring Board at Washington, D. C. S. O. 109, A. G. O., May 12, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING MAY 14, 1887.

Gravatt, C. N., Surgeon, detached from the U. S. Str. "Michigan."

Lumsden, G. P., P. A. Surgeon, ordered to the U. S. Str. "Michigan,"

Ashbridge, Richard, P. A. Surgeon, detached from the Naval Academy, and to the practice ship "Constellation."

Streets, Thos. H., P. A. Surgeon, promoted to Surgeon.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED MAY 14, 1887.

Fessenden, C. S. D., Surgeon, detailed as chairman of Board for physical examination of cadets, Revenue Marine Service. May 13, 1887.

Stoner, G. W., Surgeon, to proceed to Delaware Breakwater as inspector, and to New York and Philadelphia to inspect unserviceable property. May 12, 1887.

Irwin, Fairfax, P. A. Surgeon, detailed as recorder of Board for physical examination of cadets, Revenue Marine Service. May 13, 1887.

Fattic, J. B., Asst. Surgeon, relieved from duty at Baltimore, Md.; ordered to Marine Hospital, St. Louis, Mo. May 13, 1887.